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THE JOURNAL OF PERIODONTOLOGY is published to serve as the professional journal of periodontia; to keep dentists in touch with research being carried on in this field and related sciences; to stimulate greater interest in the supporting tissues of the teeth and their relation to oral and general health. The plan to continue the publication of abstracts on a large scale indefinitely, will make the Journal a fund of extensive information, readily available to students, teachers, researchers and clinicians.

The Journal is the official organ of the American Academy of Periodontology and will contain, therefore, those papers of scientific interest which are presented at the annual meetings of that society, and other proceedings. The July, 1932 issue will contain the abstracts of articles on periodontia which appeared in the year 1930.

We are grateful to all who have made available the subject matter from which the abstracts and copies have been made, including the authors of the original articles, the Journals mentioned in the text of the abstract section, and those who have aided in any way in compiling the material presented.

We wish to express our appreciation also, for the encouragement received from many sources, especially from those active in the field of dental journalism. The value of this cannot be overestimated, and we shall make every effort to be worthy of their continued approval.

September 8, 9, 10, 1932

The Nineteenth Annual Meeting of the American Academy of Periodontology will be held at the Lafayette Hotel, Buffalo, N. Y.

September 12-16, 1932

The Seventy-fourth Annual Meeting of the American Dental Association will be held in Buffalo, N. Y.

Arrange to attend both events.

HAROLD J. LEONARD,
President
630 West 168th Street,
New York, N. Y.

CLAYTON H. GRACEY,
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966 Fisher Bldg.,
Detroit, Michigan,

RESEARCHES IN PERIODONTOLOGY*

By HAROLD J. LEONARD, D. D. S., B. A.,
Professor of Dentistry, Columbia University

IN THE last three years at the School of Dental and Oral Surgery at Columbia University, we have been developing a plan to have each student do a piece of original research as a part of his work in the courses in Oral Hygiene and Public Health. Some time also has been allowed for elective work, which students who were so inclined have been permitted to devote to the research project selected for their Oral Hygiene or Public Health thesis, or the two combined. This has given an opportunity for those with latent talents in laboratory or clinical research to develop them. The results have been most encouraging. In the last three classes five students have demonstrated such marked aptitude that after graduation they have been incorporated in the staff to continue their studies. The research subjects suggested to the students cover a wide range pertaining to preventive dentistry and all are designed to require between ten and one hundred hours of work. It is not expected that important findings will come from these studies,—their aim is merely to develop latent talent, and to demonstrate to the students that research effort is possible with their educational attainments. Since the fundamental science courses at Columbia University are the same for dental as for medical students with minor exceptions, our students find themselves well equipped to proceed with experimental studies.

A few of these studies have been devoted to periodontology and it seemed to me that they might be of interest.

An abstract of the first paper, by Jesse Lefcourt and Louis Feldman follows, which is entitled "A case of Vincent's Infection in a dog, induced by artificial traumatic occlusion."

> In an attempt to study the histopathological effects of traumatic occlusion together with the clinical symptoms, the authors etherized a dog and inserted a gold crown on the lower right first molar in such a way that the jaws could occlude only on that tooth, the jaws being kept apart over two millimeters.
>
> During the four months the dog was kept alive, no usual signs of traumatic occlusion developed; but a definite and typical acute Vincent's infection of the gingiva occurred which was most pronounced about the crowned tooth. X-ray photographs and smears were taken at the beginning, duration, and ending of the experiment.

The second paper, by C. P. Horton is entitled "Presence of Vincent's organisms in the mouths of clinic patients." A table accompanies this report showing the results of the tests of the various mouth areas from which smears were made in each of the fifty patients examined.

Abstract:

The object of the work reported in this paper was to determine the presence or the absence of spirochetes in the mouths of fifty representative clinic patients and students. Smears were taken from the upper central incisor region, and from the upper last molar present. When mandibular third molars with a flap were present, a smear was taken from under the flap. The slides were stained with a five percent aqueous solution of *gentian violet*.

Table Follows

Out of the fifty mouths examined typical spirochetes were present in the incisal region in thirty-four cases, in the molar region in forty-seven cases; while under third mandibular molar flaps, they were present in each mouth examined.

*Presented at the eighteenth annual meeting of the American Academy of Periodontology, October 16, 1931, Memphis, Tenn. (Committee on Scientific Investigation).

Of eleven non-smokers, three showed them not present in the incisal region; in seven mouths they were sparsely present, while in one case they were more numerous. Characteristic fusiform bacilli were definitely present in one case (patient No. 1). Of the cases reporting previous Vincent's infections, this was the only one showing a heavier concentration of the organisms than those cases giving no previous history of Vincent's infection.

The third paper is by Mitchell Goldstein and is entitled "The deposition of salivary calculus in relation to over-eating." An abstract of this report follows:

The author attempted to duplicate the experiments of G. V. Black by testing the influence of excessive and diminished dietary intake on the quantity and quality of salivary deposit. He found in all the experimental subjects, himself, his mother and several students, that salivary deposit formed after a hearty meal but failed to form after a moderate one. It was formed in greater quantity during periods of tranquillity than in nervous or tired conditions. Excess protein seemed to give the greatest residue; but a large meal of potatoes, or a large dish of bananas and cream before retiring gave a profuse deposit. No very accurate method of measuring the amount or the composition of the accretion was used nor was an accurate timing of the period of salivary deposit determined. The experiment, however inaccurate, is interesting.

The fourth paper, by Jesse L. Lefcourt, Louis N. King, and L. Rosofsky is entitled "The relation of tooth brushing to abrasion, recession and gingivitis, in a representative group of students."

Abstract:

The authors attempted by a careful examination and charting of the mouths of a large number of dental students to demonstrate the relation of gingival abrasion and gingival recession to the methods of brushing the teeth. They conclude that the interdental brushing as advocated by Charters leads to the most healthy gingivae with least abrasion of the teeth or recession of the gingivae.

I have with me some specimens taken for histopathologic work by Doctor James L. Zemsky of our Staff, whose method of getting such specimens is published in the *Dental Cosmos* of July 1931, and the *International Journal of Orthodontia* of May 1931. Since histopathological work in periodontology is so dependent upon the availability of material, it should be emphasized that there is a way of securing such material without disadvantage to the patient.

I am happy to be privileged to report a piece of research by Professor Lester Richard Cahn of our Staff, whose work in Oral Pathology is, I am sure, familiar to you.

* * *

A PRELIMINARY REPORT OF FUNGUS INFESTATIONS OF THE GUM

By LESTER RICHARD CAHN, D. D. S.

Associate Professor of Dentistry, Columbia University

The *raison d'être* of this investigation was to seek an explanation for the extreme chronicity of some types of gingival inflammations, in which all possible trauma has been removed. The term "Chronic Vincent's Gingivitis" has never appealed to me, and this expression is most commonly used to designate so many of these chronic inflammations of the gum. I can not find in any other field of pathology chronic inflammations due to a

fuso-spirilla infection. The chances are that the diagnosis of "Chronic Vincent's Gingivitis" is based solely on smears of the parts, and which for the most part, are scientifically worthless.

Von Beust and others have hinted that a fungus might be the possible cause of some of these gum inflammations, and has shown camera lucida drawings revealing fungi, the mycelia of which, especially when separated from the main stem, resembled the fusiform bacilli. I have made biopsies from refractory cases and sections have disclosed fungi deep in the corium of the gum. These fungi as yet have not been identified, even from cultures. The following two cases are illustrative.

Case 1—A young lady of twenty-eight had a painful inflammation of both the upper and lower gums. Both the buccal and lingual surfaces were involved. For the most part the buccal suffered more severely. The lesion involved chiefly the free margins of the gums. Clinically it appeared as tho the epithelium had been pealed from the underlying tissues. The epithelium was decidedly fragile and could be rubbed off with the finger, leaving a raw inflamed surface. This girl had run the gamut of dentists and physicians and most of their diagnoses were "Chronic Vincent's Gingivitis." One or two said it was scurvy and an avitaminosis. Treatment was to no avail. I removed a section of the gum and found a most peculiar condition. The epithelium was fragmented and if we did not know the history of the case we would be led to believe that the sections looked like those coming from a papilloma. The corium was somewhat edematous but the interesting part was the finding of the fungus deep in this tissue. There was no chance that this was a surface contamination, because serial section showed the fungus throughout, and sections of another part of the mouth disclosed the same condition.

Case 2.—A young man with what was typically pathognomonic of "Chronic Vincent's." Treatment over a long period of time brought no relief. Sections disclosed the fungi in the tissue.

DISCUSSION

The diagnosis of "Chronic Vincent's" in both these cases was based on the smear and the punched out appearance of the inter-dental papillae and the chronicity of the condition. Histological examination disclosed the real cause.

Up to now there is no therapy that seems to cure this disease. Surgery is about the only means at present that will eradicate it. We are experimenting with various drugs both by gingival inunctions and injections. Our results are as yet inconclusive.

A word about biopsies. I believe that in every obscure inflammation or disease of the oral mucous membrane and this holds especially true for the gum, a piece of tissue should be taken from a typical part and microscopically examined. In this way some light may be thrown on a totally dark subject. We need more trained oral pathologists and men trained to examine these tissues. An appeal is made to all periodontists to coöperate with men willing to do this type of work.

INCIDENTS OF OFFICE PRACTICE

Note. The following abstracts are from brief papers read before the American Academy of Periodontology at its annual meeting in Memphis, Tennessee, October 15, 1931, under the general title of Incidents of Office Practice.

Loss of Teeth, Especially the Mandibular First Molars As a Factor In Periodontoclasia.

ARTHUR C. HEIBERT, D. D. S., Akron, Ohio.

The statement is made that in the normal mouth with all teeth in position, there is a definite distance between the maxillae and mandible which permits of an even and harmonious distribution of occlusal stress and that the loss of any tooth, especially the mandibular first molar will disturb this normal relationship causing occlusal trauma and periodontal disease in direct ratio to the departure from normal. Occlusal stresses will be physiologic only when there is a harmonious relationship. With the loss of the mandibular molars, the contact with adjacent teeth is lost, upper molars are extruded and the distance between the arches is shortened, followed by a progressive disturbance of the periodontal tissues. If the labial plate about the upper incisors is thin and of poor quality, there will be rotation and protrusion of these teeth. If on the other hand, the labial plate of bone is dense enough to withstand the trauma, the incisors of both jaws will present typically abraded surfaces. In those cases where both the bone and tooth structure are of such quality as to resist the abnormal occlusal stress, there may be a retrusion of the mandible as the cusps of posterior teeth are reduced in height.

Without restoring a more nearly normal occlusal relationship, it is believed that other treatment is of little permanent value.

Some of these cases may be restored by grinding and the restoration of normal proximal contacts. Others may need more radical treatment, such as opening of the bite in order to obtain that harmonious coördination "so necessary to healthful and physiologic function."

—*A. H. M.*

Importance of Early Recognition and Treatment of Periodontoclasia

ROBERT L. DEMENT, D. D. S., Atlanta, Ga.

Notwithstanding the fact that periodontoclasia is a disease as old as recorded history, the author calls attention to the rather general disposition on the part of many dentists to recognize it only in its advanced form, in many instances allowing it to develop to a hopeless stage without any effort on their part to provide proper treatment.

Attention is called to the desirability of early treatment as contrasted with the advanced and neglected case. These advantages as outlined are: freedom from a long continued chronic infection; improved appearance through the maintenance of a normal gum line; absence of pain in treatment; less expense to the patient and the satisfaction of having rendered a service of far greater value to the patient than is possible in the advanced case. Careful examinations to include x-rays and exploration of the gingival crevices are recommended. This latter is especially emphasized and attention called to a case in which the usual evidences of periodontoclasia were lacking and discovered only by gingival exploration. Coincident with treatment in this case the patient's eyesight was greatly improved.

It is the author's belief that periodontoclasia which is contrasted with pulpless teeth, is a most potent factor in the production of secondary infections, it being stated that "we may have up to ten square inches of granulation tissue pouring its toxins and ferments into the blood stream." An excellent plea is made for early treatment which, if heeded would do much to bring about a much needed improvement in dental practice.

—*A. H. M.*

The Patient Whom You See Every Three or Four Years

WALTER LEABO, D. D. S., Shreveport, La.

After calling attention to the inherent difficulty of maintaining the gingival tissues in health without the intelligent coöperation of the patient, the author divides patients into three groups: (a) those who present for regular postoperative treatment; (b) those whom one sees only at irregular intervals; and (c) those whom he never sees after treatment.

The first class present no problems at all and those in the third class usually have theirs solved by the exodontist. It is those in the second class that are considered by the author and the question asked, "Just how much responsibility should we assume with the case that is negligent?" The question is not answered, but attention is called to the desirability of educating the patient as to the importance of prophylaxis and how to discriminate between a prophylactic treatment well done and one carelessly done.

Patients in this class are subdivided into those who are careless; those who mean well but are poor performers and those unwilling to pay for proper postoperative care.

The importance of regular postoperative treatment is emphasized by the statement "that in no other field of dentistry is the definite continued care of the mouth so important as in periodontia," a statement with which all periodontists will heartily agree.

—*A. H. M.*

(The dentist's responsibility in these cases would seem to be fully met when having completed his treatment he advises the patient of the necessity of postoperative care and offers to notify him of that need at regular intervals. If for any reason the patient fails to heed this advice, the responsibility is obviously his and not the dentist's. The dentist should always keep clearly in mind that it is his duty to *advise* but not *coerce* his patients. Having done this his responsibility ceases.—*Note by abstracter.*)

Vincent's Infection
Everyday Questions and Answers

SAUL L. SCOTT, D. D. S., Greenville, Miss.

The usual questions asked by the patient are, What causes Vincent's infection; is it contagious; in what way is it contracted; how is it affected by the use of tobacco and alcohol?

These questions are answered by explaining the nature of the organisms causing the infection, the ease with which the disease can be communicated to another by contact and the desirability of abstaining from the use of tobacco and alcohol during treatment. It is recommended that its treatment be undertaken by the dentist rather than the physician because of his better qualifications.

—*A. H. M.*

(Because of the necessity of establishing good hygiene as a first principle in the treatment of Vincent's infection the physician could hardly be expected to give more than temporary relief by any treatment which he might give.—*Note by abstracter.*)

AMERICAN ASSOCIATION OF DENTAL EDITORS*

JANUARY 18, 1932

The first meeting of the American Association of Dental Editors was held in the Stevens Hotel, Chicago, on January 18th, 1932, with fourteen members present.

Dr. Bissell B. Palmer of New York City as Chairman of the Commission on Journalism opened the meeting, and appointed Dr. John T. O'Rourke of Louisville as Secretary pro tem. Dr. Palmer outlined the history of the movement to organize the editors of the *non-proprietary* dental periodicals. He stated that the Commission on Journalism had recommended at the July 1930 convocation of the American College of Dentists in Denver that an organization of the editors of the *non-proprietary* dental periodicals be formed, and that at the next meeting of the College in Memphis in October 1931 the Commission on Journalism was authorized to take steps to accomplish this purpose. Dr. Palmer stated that the purposes of the organization were, *broadly, to advance the cause of non-proprietary dental journalism and to make it practicable for the editors of these journals to coöperate with each other for the benefit of all concerned.* He stated that the Commission on Journalism was acting purely as *the initiating body in forming the American Association of Dental Editors.*

The following were the incorporators of the new organization:

William J. Gies, Editor of the Journal of Dental Research

John E. Gurley, Editor of the Journal of the California State Dental Association

John T. O'Rourke, Editor of the Bulletin of the Kentucky State Dental Association

Bissell B. Palmer, Secretary-Editor of the New York Section of the International Association for Dental Research

Robert S. Vinsant, Secretary-Editor of the American Association of Dental Schools.

As temporary officers

Robert S. Vinsant served as President

John E. Gurley as Secretary, and

William J. Gies as Treasurer.

After a detailed report of the activities of the Incorporators, a reading of the charter granted in Tennessee and the By-laws approved by the Board of Directors, Dr. Palmer announced that the Association now had forty-eight active members and one associate member.

Dr. William J. Gies was requested by the President to present to the Association certain recommendations of the original Board of Directors. These were as follows:

A. *Committee on Dental Literature* to study the inadequacies of current dental literature as it appears in our periodicals, and report recommendations intended to eliminate from the non-proprietary dental periodicals

1. Articles containing nothing new or timely

**Extracted from the Minutes by Permission of the Secretary.*

2. Material of poor literary or scientific quality
3. Papers lacking a sense of professional responsibility
4. Literature not free from the appearance of commercialism
5. Contributions of pseudo-research.

B. *Committee on Advertisements* to study the entire question of advertising in non-proprietary dental periodicals, and report recommendations for standardizing restrictions.

C. *Committee on Coöperation* to study ways and means by which non-proprietary journals may give one another mutual help and support.

These recommendations were approved and the President empowered to appoint these committees.

The next meeting of the American Association of Dental Editors will be held in Buffalo, New York, at the time of the meeting of the American Dental Association.

The following officers were elected: *President*—Elmer A. Thomas, Hastings, Nebraska. *Vice-President*—W. F. Swanson, Pittsburgh. *Secretary*—Malcolm W. Carr, New York City. *Treasurer*—Charles W. Freeman, Chicago. *Editor*—Grace Rogers Spalding, Birmingham, Michigan.

PUBLICITY EDUCATIONAL ARTICLES FOR NEWSPAPERS can still be obtained from Dr. Carlos H. Schott, 1004 Neave Bldg., Cincinnati, O. These articles have been carefully prepared and have been published in many newspapers throughout the country, having appeared originally in the New York World. There are sixty short articles in the set.

The Bulletins developed by the American Academy of Periodontology for dental educational purposes are available through the office of the Educational Department of the American Dental Association at the price of three cents per copy. These are excellent for patients, nurses in training, teachers and dental hygienists. They are: 1. How to build sound teeth; 2. Children's teeth—How to use and keep them; 3. The Bacteria of the mouth; 4. The masticating machine; 5. The promotion of health in the mouth; 6. Dietetics applied for oral health; 7. The home care of the mouth.

BOOK REVIEWS

BRODERICK, F. W., M. R. C. S., L. R. C. P., L. D. S. (LONDON):

Pyorrhoea Alveolaris: The Aetiology, Pathology and Treatment of Chronic General Periodontitis.

1931. 88 pp.

(Copy of Review in British Dental Journal of January 1st, 1932)

This volume contains the essay for which Mr. Broderick was awarded the Cartwright Prize of the Royal College of Surgeons. Its publication in book form is welcome, for the views which Broderick has put forward over many years have attracted considerable attention. It is now recognized that his theories of the causation of pyorrhoea and caries have passed beyond the stage of being merely ingenious speculations. They now demand and are receiving serious consideration as representing an effort to correlate these diseases with systemic conditions and to explain their pathology on a rational basis. Saying this does not imply that his theories have passed beyond that stage into the position of being facts and that dentists and doctors generally are prepared to attach the same degree of certainty to them as the author himself. All that is suggested is that his chain of reasoning is based on a sufficiency of evidence which makes it hang together logically, and that though it is not free from difficulties or devoid of possible fallacies, yet it does provide an explanation which in time may come to take its place among the accepted factors in the causation of dental disease. One of the difficulties which has confronted the dental surgeons anxious to understand Mr. Broderick's views, is that they demand a considerable amount of general physiological knowledge of a somewhat abstruse nature. Dental disease in his view is the local expression of an alteration in general metabolism. This latter is so much the more important element that the local and dental factors with which the dental surgeon is familiar, and of which he is in a position to judge, sink into relative insignificance. The preoccupation of the dentist with the teeth, as a student and practitioner, both prejudices him against a theory which is almost entirely based on biochemistry and also tends to prevent him from being in a position to check and criticise the posculates of a biochemical nature on which Mr. Broderick's theories depend. It is not perhaps surprising that physicians and others familiar with biochemical methods, have lent a more favorable ear to his views than the dental profession. Another difficulty is that Mr. Broderick himself has not made the path of the would-be convert too smooth, for his writings are not always easy to follow or the chain of his reasoning too clear to those who, unlike himself, are not steeped in the intricate developments of biochemistry.

The brevity of this book, which only occupies eighty-eight pages, is a distinct advantage. The necessity of confining himself to the terms of the competition for the Cartwright Prize has excluded redundancies and compelled a logical and orderly presentment of his views. The style is clear and the controversial element, which rarely makes for persuasiveness, is absent. The result is an attractive book which may be strongly recommended to those desirous of learning something of Mr. Broderick's views and the evidence on which he bases his conclusions. In one way criticism of this book is easy; in another way, difficult. It is a matter for conjecture, for instance, whether Mr. Broderick does not accept too readily as definitive, the views on metabolism which he quotes from so many writers. Is there such unanimity among biochemists as the reader might infer? Is not Mr. Broderick inclined to accept too readily all views which seem to support his theories?

Take the subject of endocrinology, which plays a part of cardinal importance in Mr. Broderick's thesis. He seems to assume that we have definite knowledge of the functions of the various endocrine glands. But endocrinology is a subject which has acquired a voluminous literature, full of speculation and conjecture. It would not be difficult to pick out from the literature on the subject, statements which could be used to buttress up any thesis of however opposite a nature. Many careful physiologists hold the view that our actual knowledge of the ductless glands is in reality very slight and that we are only on the threshold of beginning to understand the functions of these glands. It is not suggested that Mr. Broderick selects only those views which harmonize with his contentions and ignores those which do not fit in with them, but it seems that perhaps he is a little too sanguine in his estimates of the validity of those endocrinological theories which are amenable to his argument.

An interesting example of Mr. Broderick's methods of reasoning is provided by his deductions based on the second chart in which the variations in the pH of the saliva are charted according to age groups based on the investigations of Bunzell. Mr. Broderick then goes on to point out that the liability to dental caries varies with age, that youth is the period of greatest liability to caries, and that this lessens with age. He then concludes that the pH of the saliva and the liability to caries correspond so closely that he is warranted in stating that "we have definitely demonstrated a relationship between salivary reaction and the incidence of dental lesions similar in every way to the connection between alkalosis and pyorrhoea." But has he? In the first place, have the pH variations of the saliva in relation to age been worked out on a sufficiently large number of persons and by enough observers using methods of agreed reliability, to warrant a generalization that the pH regularly varies in various age groups? But even if it is conceded that they have, is the evidence in regard to the liability to dental caries at various ages sufficiently strong to justify Mr. Broderick's statement? A clinical impression may be a useful pointer and when there is a general agreement among dentists that the liability to caries diminishes with age, then, *prima facie*, this establishes a strong case for investigations of a more scientific character. But a clinical impression cannot fairly be put alongside of a piece of experimental evidence, and a relationship established between them on the assumption that they are qualitatively of equal worth. At most it provides a suggestive parallel between the variations in the pH of the saliva and the varying liability to caries at different age periods, which should be worked out by a careful collation of precise data on a large scale. When this has been done some definite generalization may be justified. But nevertheless, while allowing for some weakness in the chain of argument and a tendency to be over-sanguine in stating his conclusions, Mr. Broderick has written an attractive and thought-provoking book. It should be widely read, for the hypothesis which it embodies is one which ought not to be summarily dismissed as fantastic, but demands the serious consideration of the dental profession.

GOTTLIEB B. AND B. ORBAN (VIENNA):

Die Veränderungen der Gewebe bei Übermässiger Beanspruchung der Zähne. Tissue Changes Under Excessive Functional Stress.

225 pp.; 227 illustrations. 1931.

(Copy of Review by Emil Mueller. J. Am. Dent. A., Feb., 1932)

In this book, the authors report their findings in an extensive investigation which was undertaken for the purpose of showing what part traumatic occlusion plays in the development of periodontal diseases. A great deal of credit is due these investigators for

choosing so timely a subject, as there is probably no other subject in dentistry regarding which there have been so many unconsidered and superfluous statements, both spoken and written, as this one, during the past ten years.

This epoch-making study was undertaken in 1925 and is carried up to date. The principal source of material was very aptly chosen from fifty dogs, in which various types and degrees of traumatic occlusion were produced. The time of the experimental trauma varied between twelve hours and thirteen months. In order to forestall criticism, all questionable cases, i. e., in which errors might have developed, were rejected. Thirty-three dogs were finally used, and, in addition to this material, the jaws of five monkeys and four human beings were also used for comparative study. Most of the experimental stress was brought about by the use of different types of gold crowns on opposing teeth. These were allowed to remain in place for varying periods of time, after which the material was prepared for study. In a number of cases, the crowns were removed and the animals allowed to live for some time in order that a study of the reparative processes might be made.

The chief factors incorporated in this research were: the behaviour of cementum and bone under different degrees of traumatic force, the influence of horizontal and vertical pressure as well as pull on these various tissues, the age question with reference to reactions produced, the effects brought about by variation of the time and intensity factor in trauma, and finally, the behaviour of the all-important epithelial attachment in these experimental traumatic cases.

Only the more important findings will be cited. Under pressure, beginning bone resorption could be observed within twenty-four hours. This was not confined to the alveolar walls, but extended into the marrow spaces quite remote from these regions. On the alveolar walls where pull was exerted, apposition of new bone took place. The rapidity of resorption and apposition was directly dependent on the amount of force used. The authors' theory that similar forces acting on bone and cementum do not produce similar results was amply verified. Particularly noteworthy was the observation that, in some instances, cementum deposition took place in the pressure areas when, simultaneously, bone resorption was going on. In general, cementum resorption rarely accompanied bone resorption, and then only when excessive pressure was applied and rapid movement undertaken. It was more commonly noted in the old than in the young.

Very limited detrimental effect was produced on the soft tissues. Age was found to be quite an important factor, reactions in the young being more rapid and less destructive. Pocket formation and epithelial proliferation could not be brought about by either pressure or pull, and concerning the most important question, the one which formed the basis for this study, the authors very emphatically concluded that in not one instance was it possible to show that pyorrhea or even an ordinary gingival inflammation had any causal connection whatsoever with traumatic occlusion.

The physical aspects of the book are excellent. It is neatly printed on high grade gloss paper and contains 227 most excellently reproduced photomicrographs. The organization of the book is beyond criticism. With the use of two sizes of type, the authors have effectively separated straight histologic descriptions from the text proper. This enables those who do not consider themselves capable of judging histologic interpretations to obtain a very satisfactory conception of the whole subject by reading only that which is printed in the larger type. The frequent use of summaries after important descriptions is another feature which cannot be praised too highly.

There is but one possible weakness, and that is the question as to the application of animal findings to human conditions. The authors were conscious of this, and by their

comparative study of man and monkey, disposed of this criticism to some extent. The reviewer has but one regret: the fact that this book has not as yet been published in English.

GOADBY, SIR KENNETH, K. C. B. (LONDON)

Diseases of the Gums and Oral Mucous Membranes.

Fourth Edition. 496 pp.; 145 illustrations, and 14 plates.

(Copy of Review in British Dental Journal of August 15, 1931)

This book has secured a large number of readers. Published first in 1923 it has now reached its fourth edition, only three years after the publication of the third. In his preface the author notes that since the date of the publication of the first edition "the conception of focal infection has undergone complete orientation; then focal infection as the origin of serious disease was regarded as academic, though interesting; now focal sepsis is blamed for well-nigh every variety of affection. The truth lies between these extremes." Doubtless, however, the desire to know the author's views on the question of oral sepsis, so often regarded as the seat of focal infection, because he has made oral disease the subject of his life-long investigations, has much to do with the demand for this book.

For this edition a fresh chapter has been written devoted to dental caries, also another having special reference to the vexed question of streptococcal identity, and others on diseases arising from mouth infections and periodontal disease have been added. In the chapter on dental caries brief reference is made to the work of Mrs. Mellanby and to the advantage of giving to children a diet rich in vitamins as a preventive of structural defect. The author advises that if deciduous teeth when shed show structural defects an intensive treatment should be carried out to improve the calcification of those developing. He appears to doubt whether "vitamin deficiency or administration can affect a tooth when once the structure is formed and the lime salts laid down." Many, however, believe that the administration of vitamins does affect the structure of formed dentine, and the results obtained to date from the research in the Birmingham Schools now being carried on by the Medical Research Council, suggest that this is true. In any case, when the deciduous teeth are shed the larger part of the crowns of most of the permanent teeth are formed and the periphery of the dentine fairly fully calcified, hence the treatment Sir Kenneth advises, and which appears wise, though it is not easy to understand what "intensive" means, presupposes that some further calcification does follow on the giving of a diet rich in vitamins at this stage, be the explanation what it may. Internal hypoplasia—to use the term Walkhoff gave to poorly developed dentine—has been shown to be sufficiently frequent in permanent teeth to justify any treatment which would lessen its incidence. Indeed, granted the treatment be effectual, why wait till the deciduous teeth are carious and are shed? The introductory sections of the chapter on diseases originating from mouth infections set out clearly the various factors necessary to be weighed in attempting to understand the exact mechanism by which oral sepsis causes disease symptoms of many kinds.

This edition will doubtless be welcomed as warmly as its predecessors.

VON WESTIN, GÖSTA (STOCKHOLM)

Über Zahnveränderungen in Fällen von Skorbut bei Homo. Eine pathohistologische Studie. Changes in the Dental Tissues in Cases of Human Scurvy. A histopathological study.

Bands I und II. 1931.

COLYER, SIR FRANK (and SPRAWSON, EVELYN,) M. C., L. R. C. P., M. R. C. S., L. D. S., Director of Dental Studies at the London Hospital Dental School (UNIVERSITY OF LONDON).

Dental Surgery and Pathology.

Sixth Edition. London, 1931. 908 pp. Chapters 15-17.
(Copy of Review in Dental Surgeon, V. 28, Oct. 10, 1931, p. 640)

This revision has been made in an attempt to simplify the teaching of dental pathological processes to students.

The American classification of irregularities of the teeth is now included, and the different varieties of hypoplasia have been classified.

Odontomes have been re-classified under an exact and inclusive definition already published and approved, the new classification differing only in minor details from that approved by the British Dental Association in 1914.

A chapter on the surgical removal of teeth has been added, and knowledge in many subjects in which there have been advances has been brought up to date.

BENNETT, SIR NORMAN, M. A., M. B., B. CH. CANTAB., L. D. S. ENG.:

The Science and Practice of Dental Surgery

Second Edition: In two volumes, royal 8vo, comprising 1,568 pages, with 1,230 illustrations in the text. 1931.

(Taken from the Review in the British Dental Journal of Dec. 15, 1931)

In this new edition, the author has revised and greatly enlarged on the original work which appeared in 1914 just before the Great War. Both as to content and physical make-up which is much more convenient, this is an improvement in every way on the other (itself a most excellent and comprehensive volume.)

It contains excellent chapters on all phases of dentistry by competent and renowned specialists, namely Sir Harry Baldwin, J. Howard Mummery, Arthur Hopewell-Smith, N. J. Ainsworth, Elsa M. Bennett, W. E. Coe, A. C. Counsell, H. F. Humphreys, A. L. Packham, A. T. Pitts, A. L. Spencer-Payne, Evelyn Sprawson, F. St. J. Steadman, H. Stobie, F. Talbot and Bowlder Henry—a worthy company.

"The two chapters on Diseases of the Periodontal Membrane, which have been written by Mr. A. T. Pitts, contain much new matter. He summarizes recent literature upon this subject and describes the pathological conditions with accuracy and clearness. The treatment of each type is carefully considered. The chapter on Dental Sepsis, by the same author, has been entirely rewritten. He deals fully with the remote effects for which dental sepsis may be responsible, and points to the different results which may follow the 'open' and 'closed' types of infection. These three chapters by Mr. Pitts form a very valuable contribution to dental pathology.

In conclusion, it can be added with all sincerity that this is a great work which deserves a large circulation. The print is delightfully easy to read, and the illustrations fully maintain the excellent qualities of the first edition. It should be read by all dental students and practitioners who desire to master the principles of the science and practice of dental surgery. The profession owes another debt of gratitude to Sir Norman Bennett, who has added to his laurels in producing this important book."

RUPPE, DR. C., STOMATOLOGIST TO THE HOSPITALS OF PARIS:

Pathologie De La Bouche. Pathology of the Mouth. (Paris):

583 pp. with 37 illustrations. 1931.

(Copy of Review in the British Dental Journal of January 15, 1932)

This volume is one of the well-known series originally planned by Godon and now under the general editorship of Dr. Frey and Mr. G. Villain. A companion volume on the pathology of the teeth by Dr. Frey, is in preparation and the two books will then cover the whole pathology of the buccal cavity. Within relatively brief compass, for the pages are small, this book covers a wide field and is wonderfully complete. There are few, if any, conditions affecting the mouth, excluding the purely dental lesions, which are not described. As might be expected, the accounts are brief and the style severely compressed. But the letterpress is set out in an orderly fashion and makes for easy reading. One feature which will strike the English reader used to books published in this country and America, is the paucity of illustrations of which there are only thirty-seven. A book on pathology without copious illustrations is like fish without sauce. But against this must be set the extremely moderate price, . . . which would not have been possible if the book had been illustrated on the scale regarded as indispensable in a textbook written in English. There is very little about morbid histology in this book and the reader would find it impossible to acquire any comprehensive idea of the structure of, say, the various tumors such as the odontomes, from its perusal. But if the pathology is weak, the account of the clinical signs of the various conditions described is unusually good. Particularly does this apply to such conditions as alveolar abscess, cellulitis, stomatitis, and affections of the temporo-mandibular joint. In general, the account of the aetiology and symptomatology follows along traditional lines and there are very few references to works other than French writers.

To an English reader the account of the odontomes in particular will be very disappointing. To Dr. Ruppe such workers on the subject as Bland-Sutton, Gabell, James and Payne, do not appear to exist. There is a reference to the work of Sprawson on dentigerous cysts, in the short list of authorities appended to the end of each section, but no allusion to his views and their bearing on treatment appears in the text. Perhaps the strongest feature of the book is the account of those various conditions affecting the mouth, of non-dental origin which, though often familiar to the doctor, are less so to the dental surgeon. Even such rarities as pemphigus, congenital fistula of the lower lip, Mikulicz's disease and Bazin's disease, all find a place here. Though this book does not contain anything of a stimulating character, it is a safe guide, and in virtue of its unusually wide range it should prove a useful book for reference.

LEIBINGER, FRANZ

Die Heutige Bewertung der Paradentose sowie die Mittel und Moden zu ihrer Behandlung in den letzen zehn Jahren.

The present day evaluation of Paradentosis as well as materials and methods used in its treatment in the last ten years.

Thesis, University of Tübingen. 39 pp. Stuttgart, 1931.

WITZ, OTTO

Die gewöhnliche Gingivitis. Beitrag zur Häufigkeit und zu ihren Beziehungen

Ordinary gingivitis. Essay on the prevalence of the disease and on conditions associated with it.

Thesis, University of Tübingen. 48 pp. Stuttgart, 1931.

ABSTRACTS AND EXTRACTS OF CURRENT LITERATURE FOR 1927-'28-'29 ON

(f)—Treatment

1927

1—Barail, Louis C. (Paris): **Nouvelles observations de traitement électro-osmotique des pyorrhées graves,** in: La Presse dentaire, xxix (2) 107, 1927.

While in benignant cases the author uses Iodine for electro-osmosis, in refractory cases he relies upon *Novar* (a French preparation) in saturated aqueous solution for a successful result.

—*H. A. R.*

2—Begelmann, I.: **Über lactotherapie parodontaler erkrankungen.** Milk therapy in periodontal diseases, in: Dtsche. Monats. f. Zahkde. Feb., 1927. Abs. D. Cosmos, lxix: 754-5. July, 1927.

It is well known that injection of foreign, non-specific protein occasionally seems to exert a beneficial influence on the course of an infection. In recent years, due largely to the teachings of Besredka, efforts have been made to produce a local immunity by means of vaccines introduced at the site of the lesion. This concept has been applied in dentistry by Goldenberg and others (*vide* D. Cosmos July 1925, p. 689). A combination of these two ideas is represented by Begelmann's work. In all he had treated forty cases. Sterilized milk (in five cases horse serum) was given in doses beginning with 0.1 and increasing with increments of 0.1 until 0.5 was reached. The injections were given usually on every second day. In general he waited until the reaction called forth by one injection had completely subsided before giving another injection. The number of injections received by any particular individual varied between fifteen and forty. Results usually did not become apparent before eight or ten injections. Apart from the removal of calculus, no other therapeutic measure except injection was given. In fourteen cases the results were distinctly good. In twenty-one cases significant improvement was accomplished. In three cases there was no improvement and in another case following a temporary improvement there was a return to the usual condition.

—*Copy.*

3—Berger, Adolph, D. D. S.: **The surgical treatment of periodontoclasia,** in: J. Am. Dent. A., xiv (6): 1013-1021. June 1927.

Two operations practiced for the relief and cure of periodontoclasia—gingivectomy and the radical or flap operation. Riggs according to Merritt expressed the opinion that cutting the gums away was barbarous. Neuman of Berlin has been practicing flap operation since 1912 and this paper is a critical review of his writings. He divides the cases into horizontal and vertical pyorrhea. In the first the bone becomes resorbed parallel to the upper margin of the process and in the second the pocket is parallel to the long axis of the tooth. Horizontal pyorrhea is more amenable to treatment than is the vertical type. Only those cases where there is uniform absorption of the alveolar process and the soft tissue (consequently no pockets), can be treated in a conservative manner. Eight advantages to be derived through the radical flap operation.

—*M. M. B.*

4—Blanquie, Raoul H., D. D. S.: **The surgical treatment of periodontoclasia,** in: D. Cosmos, lxix: 404-409. April, 1927. *ibid,* lxx: 170-173. Feb., 1928.

Blanquie thinks mechanical disturbances are primary in the development of periodontoclasia. Systemic causes such as scurvy, gastric hyperacidity, diabetes and syphilis may exert a predisposing influence on the disease but are probably never primary. He cites the fact that Frank C. Pague of San Francisco demonstrated the importance of traumatic occlusion in 1900. Gives the usual local mechanical causes of the disease and quotes Stillman and McCall as to the effects of

these on the periodontium. In treatment, drugs are contra-indicated. He feels that the case for reattachment has not been proved and that therefore, the surgical resection method as advocated by Ward is to be preferred. The technique of the Ward operation is described and illustrated. He also describes the Ward "Wondrpak" technique for reducing post-operative pain and sensitive root surfaces. Adequate follow up home care with brushing and massaging is described. The advantages of the surgical technique are given as, complete eradication of infected tissues, minimum chance of recurrence, rapidity of operation, similarity to other surgical operations, and excellent after results.

—*H.A. R.*

5—Chaim, Arthur: **Trigeminus-neuralgie, Gichtparadentose, und Radiophantherapie,** in: Z. Rdsch., xxiv. 1927.

Author treats chiefly of Radiophan. He has used it for gouty patients with paradentoses; and for irrigation of periodontal pockets, getting good results also from intravenous and intramuscular injections. It is a well-known fact that paradentoses usually accompany the uric acid diatheses and that by successful treatment of the uric acid symptom-complexes, the paradental conditions are improved. Abs. by Münzesheimer, in: Ztschr. f. Stomat. xxvi: 223. 1928.

Transl. of Abs.—H. A. R.

6—Chichester, A. S., D. D.S.: **Pyorrhea in general and in particular,** in: Dent. Mag. & Or. Top., 3-11 Jan. 1927.

Term as generally accepted by most of the dental profession means irritation of some sort beneath the free margin of the gums. Is considered a local manifestation of general and most often decidedly obscure, systemic origin. It is defined as a local manifestation of a lowered physical resistance.

The peridental membrane, the structure chiefly involved is fibrous and extremely vascular—two most important attributes to tissue immunity. In mouths where the investing structures are subject to chronic irritation there may be no sign of pyorrhea; though the pericementum may be thickened it continues to resist. Evidently the circulation has been building up resistance. Again, the bacterial flora of most healthy mouths is about the same; yet we find two mouths, both of which on this account should have pyorrhea, yet one is free from it while the other is not. Again, a question of resistance.

Hence, physical resistance must be built up: (1) by increasing the physiological balance of the blood; and (2) by artificially building up the resistance of the gingival tissue and of the pericementum.

In advanced cases author outlines his diagnosis and treatment as follows:

1. Radiograph. 2. Thoro clinical examination including casts, checkbites, etc. 3. History of general physical condition, past and present. 4. Careful explanation to the patient of difficulties of treatment. 5. Estimated fee. 6. Removal of sources of infection. 7, Gum resection if necessary. 8. Checking of occlusion, to be balanced by grinding. 9. Securing patient's cooperation.

—*H. A. R.*

7—Colman, George T., Ph. D.: **Uncooked foods in relation to the teeth,** in: D. Cosmos, lxix: 286-289. Mar., 1927.

Dental writers are unanimous in the opinion that diet is the determining factor in the production of sound teeth as well as extremely influential in maintaining them in a healthy condition, whether in the growing child or in the adult. The writer especially endorses the liberal use of uncooked foods and milk by prospective mothers to promote good teeth and prevent adenoids, hypertrophied tonsils, and other infections and gland troubles common among children. The value of anti-scorbutic vitamin was stressed as an ally in the treatment of pyorrhea, trench mouth, gingivitis, and the like.

—*M. Y.*

8—Davis, DeForest, D. D. S.: **Moving malposed teeth. Establishing balanced occlusion by mechanical restorations,** in: J. Am. Dent. A., August, 1927.

The responsibility for a large part of periodontal disease may be justly charged to all types of dental restorations, caused by lack of technical skill. G. V. Black demonstrated a long time ago, that the teeth and jaws of the adult are called on to carry a remarkably heavy load. This fact makes the matter of stress one of primary importance in all dental reconstruction.

Attention is called to the malposed tooth and its significance in periodontal disease.

The loss of a single molar may so disturb nature's wonderful scheme of stress distribution as to jeopardize seriously an entire dentition.

Orthodontic assistance is of value in moving malposed teeth back to normal positions in order to relieve the periodontium of a destructive load. Frequently, an otherwise correct dental bridge fails because the abutments continue to migrate after the bridge is in place. This is true more frequently of removable bridges whose attachments are unable to stop tooth migration. Make correction before bridge is placed so migration is stopped.

When lower molars migrate, a large proportion of occlusal stress is transmitted to the upper bicuspids.

The surest test of any dental restoration is the condition of the periodontium. This invariably calls for a consideration of the entire dental mechanism in order to insure a harmonious relation of all its parts.

Mechanical details are not alone involved in placing the restoration on the affected tooth; the tooth concerned is only one part of an entire organ that includes all the other teeth, their peridental membranes, gingivae, alveolar bones, etc., and that all of these tissues, their functions and limitations, must enter into the problem of restorations if the latter are to be useful rather than useless or harmful to the patient.

—*A. M. H.*

9—Dubeau, Eudore, D. D. S. (Montreal, Canada): **My experience with Inava Vaccine in the treatment of pyorrhea alveolaris,** in: J. Am. Dent. A., xiv (7): 1272-74. July, 1927.

Experimented with Inava vaccine only after getting favorable reports from Dr. Besredka in the Metchnikoff laboratory and Dr. Goldenberg who had worked under Besredka in preparing the vaccine. Valladier of Paris, Brydges of London and Aguilar of Spain had also used it successfully. Excellent results in college clinic as well as private practice are reported and general health in some cases greatly improved.

It is used as an adjuvant to the surgical treatment which is started after second injection and thoroughly done. He co-operates with physician postponing treatment till general condition is good then gives mild laxative two or three days before-hand. Strict asepsis is used and great precision in technic; 1st one drop, in five days 2 drops, increasing by one drop every two days up to six drops which dosage is maintained till ten injections have been made.

Superficial injections are made very slowly in bicuspid or cuspid region and dosage of more than three drops should be divided and administered in different places. More than one series of treatments may be indicated.

Discussion—I. Hirschfeld thinks that with careful surgery advocated by Dubeau equally good results would be had without vaccine. In his series of experimental cases with controls, results were negative.

Theodore D. Casto of Philadelphia thinks time has come for use of local immunizing vaccine against periodontal bacterial invasion and has obtained good results with polyvalent stock vaccine as well as with the "Inava Vaccine" used strictly according to the directions of its originator.

—C. R.

10—Dunn, Edward, D. D. S.: **Nascent copper in the treatment of pyorrhea,** in: D. Cosmos, lxix: 742-743. July, 1927.

℞ Boracic acid 20 parts
Sulphate of Copper 1 part
Glycerin, q. s. to make a paste.

A small quantity of boro-copper paste is placed on a slab and to it added two or three drops of pure fluid lactic acid (mix.) Mixture applied to deep pockets, between necks of teeth and under flaps of loose gums, with a probe wrapped with cotton wool. No scaling on first visit is done. On the second visit tartar is removed. Treated twice a week for two months with the result that gums became healthy looking and loose teeth tightened enough to use. Paste must be mixed fresh each time with lactic acid. This liberates the copper ions from the sulphate and in its nascent condition the element manifests the greatest possible activity. The free sulphuric acid may act concurrently as a solvent of tartar, or may replace boron in the tetraborate of soda (boric acid), forming a soluble sulphate of soda which the fluids of the mouth easily manage and wash away. Patient is instructed to rinse mouth frequently with warm water.

—M. Y.

11—Feirer, W. A., D. D. S., & V. Leonard, M. D.: **Antisepsis in hygiene of the teeth and gums,** in: J. Am. Dent. A., xiv: 1049-1065. June, 1927.

Experiments were made to determine whether it would be possible by the use of a germicidal drug in a dentifrice to materially reduce the bacterial flora of the mouth with a view to preventing the development of caries and periodontal lesions. It was shown that this could not be done by any of the forty-one dentifrices examined. As a result of many experiments made, it was the opinion of the investigators that "a substance intended for use as an oral antiseptic should be chemically stable, nontoxic, nonirritating, rapidly bactericidal in high dilution, highly penetrating and unaffected by organic matter."

It was found that a paste "consisting essentially of gelatin, glycerine and chalk with 1 percent of sodium bicarbonate and 0.16 percent of hexylresorcinol destroy all of the common pathogenic bacteria in fifteen seconds. Applied in the mouth, pastes of this composition reduce the bacterial content of mouth washings from 25 to 94 per cent in individual experiments and over 70 per cent in group experiments."

The authors while admitting that the problem of oral antisepsis is by no means solved, are agreed that the experiments made indicate that a completely satisfactory solution is a possibility. The line of investigation carried out is given in detail and is worthy of careful study by anyone interested in the prevention and control of dental caries or periodontal diseases by the use of antiseptic dentifrices.

—*A. H. M.*

12—Folstein: **Ultra violet light in the treatment of abscessed teeth and pyorrhea alveolaris,** in: Arch. Phys. Ther. and X-ray Rad., July, 1927. Abs. J. Am. Dent. A. Nov., 1927. p. 2130.

The ultra-violet ray is applied in case of abscessed teeth, after employing chemical and mechanical measures, preceded by roentgenray examination, and opening of the tooth. Treatment is given every second day, facially and lingually. In about three weeks, the root canal is filled and roentgenograms show removal of the focus of infection and regeneration of bone and peridental structures. A fistulous tract is treated similarly. In pyorrhea, simply scaling the teeth and applying the rays has resulted in eradication of pus and sponginess of the gums, tightening of loose teeth, cessation of bleeding and regeneration of membranes and alveolar process. Results are obtained in from one to three months. A quartz rod is applied directly to the tissues affected and is inserted in pus pockets. The treatment has the additional desirable feature of being without pain or stress to the patient and no home treatment is demanded.

13—Garvin, M. H., D. D. S. (Winnipeg, Can.): **The principles of practice in periodontia with special reference to the sequence of steps in treatment,** in: J. Am. Dent. A., xiv: May, 1927.

The sequence of the various steps in treatment is important. The means of arriving at a proper diagnosis calls for a complete case history, full mouth radiograms, study casts mounted on an anatomic articulator, and a close study of all factors present. Failure to understand the etiology and proper method of treatment leads to disappointment.

The periodontist must be responsible for the diagnosis and management of the case, even though his work is limited to periodontia. All restorative and reparative work done in the mouth must measure up to the highest standards in order to insure final success in his treatment. He, therefore, must have the fullest coöperation of a group of particularly efficient general practitioners, or associate himself with a group clinic of high order.

An important phase of treatment consists of thorough instruction and training of the patient in the home care of the mouth. Serums and vaccines are of little or no value. Periodic examinations and prophylaxis should be made frequently; three months being a fair average. This may be facilitated by using "a prophylactic call list."

—*R. S. T.*

14—Hardwick, F. G., D. D. S., D. D. Sc.: **Some aspects of dental infection in relation to treatment,** in: Austr. J. Dent. Sci., Abs. Pac. D. Gaz. xxxv (2): 133-141. Feb., 1927.

a. Morbid anatomy of simple infection.

b. General review of the treatment of infected wounds.

c. Wright (Sir Almroth) on the value of antiseptics.

d. Views of A. Carrel and Dehelly.

His conclusions are (1) that there is a close analogy between certain dental infections and suppurating war wounds. (2) the apparent futility of trying to sterilize such infections (3) the obvious necessity of promoting physiological processes; (4) germicides efficient in surface infections and in pre-

venting re-infection. (5) the chief requisites in the treatment are to promote free circulation and an active flow of lymph.

—*Copy.*

15—Hartzell, Thomas B., M. D., D. M. D.: **Factors in control and cure of pyorrhea,** in: J. Am. Dent. A., xiv: Nov., 1927.

Streptococcus viridans and staphylococcus pyogenes are the two bacteria responsible for destroying investing tissues of teeth.

In treatment it is important to correct physical difficulties which lower cell resistance but cases are cured when invasion of pyogenic bacteria is stopped and maintenance of cure depends on freedom from further infection. Bacterial growth is reduced by hygienic measures and harmless toxin neutralizers such as sodium ricinoleate whose detoxifying power has been thoroughly tested.

A soft rubber plate-like device is recommended to introduce agent in form of detoxol into crevices around teeth and at the same time massage the gingival tissues. Tooth brushes continue to be our best ally when constructed to reach all surfaces of all teeth and selected for the individual case. Disclosing stain will show the patient the quantity and location of bacterial accumulations and he should obligate himself to remove growth at least night and morning when scouring carefully will reduce bacteria to harmless minimum. Brushes should be used only when dry and stiff and in addition if one uses dentifrice containing correct percentage of sodium ricinoleate he will add to perfection of removal of bacteria and their toxins. When pocket becomes newly lined with healthy vigorous epithelium to bottom of gingival crevice he is satisfied. Granulation tissue and sensitive root surfaces can be reduced by applying ammoniacal silver nitrate with steel instrument followed by oil of cloves—then burnishing treated surface of root. Great emphasis is laid on patient's recognition of importance of cleanliness, and instructions in obtaining and maintaining a dense resistant epithelium.

—*C. R.*

16—Hirschfeld, I., D. D. S.: **Investigation of Inava endocorps vaccine,** in: Abs. D. Cosmos, lxix: 329. Mar., 1927.

The main object of the experiments was to test the effect of the Inava endocorps vaccine on pus formation. Six cases of suppurative periodontoclasia were selected. The results were uniformly unsuccessful.

17—Holman, C. B., D. D. S.: **Ultra-violet-ray therapy in dentistry,** in: D. Cosmos, lxix: 278-283. 1927.

There are two great artificial sources of the ultra-violet ray, the mercury-vapor lamp and the simple arc-light. The efficacy of the ultra-violet ray as a therapeutic agent depends upon its powers of penetration. The penetrability is in indirect proportion to the length of the wave. The longer rays are analgesic, germicidal and stimulating to the metabolic processes of the living body. It is used as an adjunct to the already recognized methods of correcting oral pathologic conditions in the practice of dentistry. It is said to have proved helpful in treatment of pyorrhea.

—*M. Y.*

18—James, Austin F., D. D. S.: **Balancing the occlusion in the relief of occlusal trauma and other factors in the treatment of pyorrhea,** in: J. Am. Dent. A. xiv (2): 335-8. Feb., 1927.

Pyorrhea is a local infection which may be induced by many causes. Abnormal occlusion tends to cause occlusal trauma, which in turn leads to lowered resistance and destruction of tissue cells.

The Gysi principle of grinding the buccal cusps of lower and the lingual cusps of upper teeth in order to balance the occlusion was the first clue to proper treatment for the relief of this condition. A method of tooth grinding is described. The clearing up of infections is the simplest part of the whole procedure. If the places harboring bacteria are cleaned up and gotten rid of, the infection is eliminated. With Cameron and Friedman lamps, all forms of calcareous deposit on or below the gum line can be actually seen and removed. The only other measure necessary is to put the exposed tooth surfaces into such condition that the patient can keep them clean, and then to teach him how to keep them clean.

19—James, Austin F., D. D. S.: **Aims and results of periodontal treatment,** in: J. Am. Dent. A. xiv: 903-4. May, 1927.

The principles of the periodontist in practice are: (1) to assume the responsibility of

removing all forms of irritation from the mouth; (2) to put all tooth surfaces in such condition that the patient may be able to keep the mouth and teeth in a hygienic condition; and (3) to teach the patient how to maintain this result.

To the periodontist the problem of infection in the mouth has simply become one of getting rid of the places harboring bacteria. When this has been accomplished and the patient taught how to maintain the result, there need be no further fear of infection.

20—Jones, H. E., D. D. S.: **Sodium ricinoleate in dental therapeusis,** in: D. Cosmos, lxix (3): 247-249. March, 1927.

Sodium ricinoleate, a chemically pure castor-oil soap, is obtained by the saponification of the oil with caustic soda and then purified. It is a pure white solid that will produce a clear solution with distilled water, the particular reason for the purification being that soaps which do not give a clear solution do not detoxify efficiently.

It is recognized that bacterial growth in the mouth is the cause of most dental ills, but we had no effective method of combating their activity. We have found that the growth of bacteria could be influenced by the surface tension of the culture medium. Developments showed the value of sodium ricinoleate as a surface tension depressant, as well as its power to apparently kill or render nonpathogenic such virulent organisms as the strepto-pneumococcus group, and also its property of detoxifying or neutralizing in some way the action of soluble toxins and endotoxins. The important role played by the strepto-pneumococcus group in most mouth infections and the unusual sensitivity of these organisms to the action of sodium ricinoleate, led to the application of these principles of bacterial control and detoxification.

How to obtain these solutions, is explained and some of the results of their use are given.

—*S. R.*

21—Kerpel, Edmund (Vienna): **Antivirustherapie bei stomatitis ulcerosa und aphthosa,** Antivirus treatment of pyorrhea (Besredka), in: Zeitschr. f. Stomat., xxxv (2): 1073-79. Nov., 1927. Rev. Int. Jnl. Orth., xiv: 82-3. 1928.

The preparation referred to is the Besredka Antivirus originated in the Pasteur Inst. at Paris and known for short as the AVB. This serum has been tested extensively in medicine including affections of the gums and mucous membranes of the mouth; but although many good results have been obtained in the latter there have also been unaccountable failures. These have been due apparently to various causes, as unstandardized preparations and lack of knowledge on the part of stomatologists, which among other errors has been responsible for insufficiently long contact of the virus with the disease focus. The author's own experience has been uniformly good, and the pain and inflammation due to stomatitis have both yielded to the treatment, the rapidity of the cure being at times startling. The form of virus to employ is the polyvalent strepto- and staphylococcus, and the author has devised an applicator for holding the saturated pledgets of cotton against the affected surfaces and retaining them there for the proper interval. He gives case histories which show the excellence of the treatment in ulcerous and aphthous stomatitis. In his general summary he states that in all painful inflammatory affections of the mucous membranes of the mouth the application of the AVB gives strikingly rapid relief, stilling the pain and arresting the inflammation. This appears to be one scientific remedy in which the actual beneficial results have been far in excess of the theoretic anticipations—as a rule we know that the contrary is experienced.

—*Copy.*

22—Kunert, A.: **Falsche Lebensweise und mangelhafte Mundpflege als letzte Ursache für die Paradentosen (Alveolaratrophie und Alveolarpyorrhöe) ihre Verhütung und Bekämpfung.** Faulty mode of life and defective care of the mouth as the cause of the paradentoses (alveolar atrophy and alveolar pyorrhea); their avoidance and their combating, in: Dtsche z. Wchnschr. xxx (22): 387-394. 1927. Abs. D. M. f. Z. xlviii (5): 515. Mar., 1930.

Author recommends a diet of basic foods rich in acid (potatoes, vegetables, milk and fruits, with limited albuminous content) and various water cures (Karlsbad-Sprudel, Salzbrunner, etc.)

23—Labatut, Simoes, (Rio de Jan): **Ueber Alveolarpyorrhoe,** in: Brasil Odont., iii (10-11): 154. 1927. Abs. Fortschr. d Z. iv (2): 530. 1928.

Author reviews the subject critically. All

researches so far have led nowhere; it is still unknown whether it is local, or the local expression of some general condition. The different methods of treatment are reviewed; but methods must be sought suited to individual cases and special causes. The author leans to vaccine treatment.

Transl. of Abs.

24—Lake, F. W.: **Ultra violet radiations in oral lesions,** in: Arch. Phys. Ther. X-Ray. Rad. Aug. 1927. Abs. J. Am. Dent. A. xiv (12): 2306-2307. Dec., 1927.

The problem whether certain teeth or a tooth shall be sacrificed in an effort to clear up a systemic ailment is discussed. A case of rheumatism has cleared up on the extraction of a single tooth; in other cases, sacrifice of all the teeth has failed to bring about the desired result. Far too many teeth are being sacrificed unnecessarily. Placing one's self in the patient's place in determining a course of action is advocated. All other possible sources of infection should be eliminated before extraction of the teeth is considered. The significance of the shadows in the roentgenogram is often overestimated, it is believed. In pulpless teeth, with apical involvement, the ultra-violet ray is applied with one-minute pressure with a quartz rod directly over the involved portion at each sitting. Three sittings are required for filling of the canals. In peridental abscess, drainage is established before application of the rays. Pyorrhea is treated by scaling (once) and application of the rays twice weekly. In stomatitis, after the cause is corrected, the use of the rays is found efficacious in stimulating the tissues. The infectious type responds more readily than the systemic or traumatic types.

—Copy.

25—Leonard, Harold J., D. D. S., B. A.: **Treatment of periodontoclasia,** in: Dominion Dent. J. xxxix. (11): 337-345. 1927. (Select.) D. Digest, xxxv: 456. July, 1929.

"There is no one universal panacea for periodontoclasia. Successful treatment depends on a discovery of the causes and their elimination, together with a restoration of tissue and organ function. Drugs and elaborate apparatus have little place in rational therapy. The essentials are knowledge of the causes, skill in instrumentation, enthusiasm in getting patients trained and coöperation in eliminating systemic defects."

26—MacWhinnie, Arthur B., D. M. D.: **Treatment of pyorrhea with the mercury quartz lamp,** in: Pacif. Dent. Gaz. xxxv (10): 589-592. Oct., 1927.

Factors in the therapeutic value of these rays:

1. Germicidal action positive
2. elimination of chemicals (cytocidal)
3. stimulation of cellular activity
4. analgesia of nerve endings
5. oxidizing action in bone and blood repair

Clinical observations:

1. some swelling (the more the better)
2. production of vesicles, none of these painful
3. blanching of mucous membrane

Lake and Folstein are quoted at length

Results of treatment

No surgical operation necessary
Pain eliminated
Secondary infection and suppuration absent
Bleeding does not occur
Avoidance of shock
Carelessness can do no more harm than produce sunburn
Body tone benefited

It is concluded that this is to be preferred to any treatment now in use for pyorrhea alveolaris.

—H. A. R.

27—Marshall, John Albert, D. D. S.: **Diet in relation to disease of the supporting tissues,** in: J. Am. Dent. A. xiv (12): 2207-2216. Dec., 1927.

The work and mechanistic theory of the late Jaques Loeb is discussed. M. suggests that an enlargement of this theory to the extent of a statement that to carry diluted seawater in our blood would not be entirely incorrect, and cites Loeb's well-known experiments on the sea-urchins' eggs, and other salt water animals, which show that there is an interaction, interdependence or even an antagonism between certain mineral salts, supplementing their individual beneficial action toward animal life and inhibiting their deleterious ones.

This balance of mineral proportions is however dependent on other factors; the action of sunlight, the presence of vitamins in the

diet, the proportion of fat to lime, and the effects of the internal secretions. An enormous amount of experimental work has been done on these problems; but the problem of deficient bone formation as shown in rickets is still open.

Increased civilization has given us purer food but also poorer food, e. g. cane sugar and white bread. In general canned foods are defective; likewise margarine, lard, polished rice, etc. Our diet has been over-refined and we need a "back-to-nature" movement.

The vitamins are discussed, their sources, and their effects; Their importance especially in the diet of children and of expectant mothers is shown. It is by many believed that G. V. Black was right when he stated that pyorrhea is a local and not a systemic disease manifesting locally. But now the latter view appears to be developing. Correction of this condition will come from two things:

(1) local prophylactic treatment or deep scaling, with elimination of infectious processes and

(2) carefully devised systemic treatment, based on a knowledge of foods and metabolism.

—*H. A. R.*

28—McCall, John Oppie, D. D. S., A. B.: **Minority report on vaccine treatment in periodontoclasia,** in: D. Cosmos, 329. 1927.

Although McCall concurred with the findings as reported above (JADA. November 1926) he is as yet unwilling to come to a definite rejection of this form of treatment. On clinical evidence he believes that a higher degree of phagocytosis was induced than would otherwise have occurred. In many of his own cases in which the prognosis was favorable, although the patient's resistance was evidently low, he has felt that greater benefit was received by the use of the vaccine.

29—Merritt, Arthur H., D. D. S.: **The principles of practice in periodontia,** in: J. Am. Dent. A. xiv: 889-918. 1927.

A symposium in which Elmer S. Best wrote on "Examination and Case Records": T. B. Hartzell on "Factors in the Etiology and Control of Periodontoclasia": A. F. James on "Aims and Results of Periodontal Treatment": M. H. Garvin on "Sequence of Steps in Treatment," and Julian Smith on "Root Surgery," was correlated by Arthur H. Merritt. The abstract of the correlation follows:

"1. Diagnosis, to be made only after a much more searching and comprehensive examination than is usually made.

2. Case records, on which are recorded in detail the results of the examination that is to form the basis in treatment.

3. Roentgen-ray examination with study models, vitality tests and oral prophylaxis, as a part of the examination preliminary to treatment.

4. Sequence in treatment, it being believed that failure to recognize the importance of this, explains many failures.

5. Occlusion, the importance of this in treatment being generally recognized.

6. Root surgery, regarded as the *sine qua non* in treatment.

7. Prophylaxis, an essential part of post-operative care.

8. Personal care by the patient."

This is a symposium in which every paper is of unusual interest. They cover the subject comprehensively.

—*A. H. M.*

30—Miller, Samuel C., D. D. S. and Sidney Sorrin, D. D. S.: **Sodium sulphide solution as epithelial solvent,** in: D. Cosmos lxix (11): 1113-1116. Nov., 1927.

One of the most serious drawbacks in the treatment of periodontal pockets in previous times has been the difficulty and also the uncertainty of closure after treatment, with consequent possibilities of reinfection.

These authors present another technique for the treatment of pyorrhea, which consists in the use of sodium sulphide as an adjunct to the accepted surgical treatment, namely, scaling, curetting, relief of traumatic occlusion, massage, etc. Good results in regeneration of the bony support of the teeth are shown.

As the pocket deepens, the epithelium dips down to cover up the denuded surface and bone will never regenerate to come in contact with epithelium. We must have connective tissue in order to have bone regeneration, and this regeneration will take place proportionately to the amount of connective tissue present.

Sodium sulphide has the ability to dissolve epithelial structures.

The cementum is a vital tissue capable of reaction to injury. New cementum calcifies around the new connective tissue fibrils and forms a new pericementum.

The formula of sodium sulphid is given along with the method of administration.

—*S. R.*

31—Mowry, D. P., D. D. S., L. D. S.: **Pyorrhea and the general practitioner,** in: Dent. Mag. & Or. Top. 216-225. Apr. 1927.

The practitioner must be familiar with the histology of the dental and peridental structures, the ideal dentition, and the environment of these tissues which has two aspects: (1) the factors from without; and (2) those working from within through the blood stream. When a case presents itself in which the normal tissue picture is altered, it means merely that these living tissues have adjusted themselves to a new environment either from within or without; and it is the duty of the dentist to restore that environment which is best for the life of these tissues.

The environmental influences may be

1. Irregular teeth: (a) traumatic occlusion; (b) gingival trauma from mastication; (c) lack of occlusion; (d) abnormal pressure from lips, tongue or cheeks.

2. Soft foods, and lack of natural foods.

3. Stimulants or narcotics; or neglect.

4. Dental restorations.

5. Changes in blood due to pregnancy, diabetes, acidosis, infection, etc.

6. Abnormal saliva due to intestinal stasis.

7. Habits: mouth breathing, tooth picks, gum chewing, etc.

The treatment should include the following familiar points:

1. Radiograph; 2. Adjustment of occlusion; 3. Restorations.

The author regards the toothbrush as the prime essential to dental health.

—*H. A. R.*

32—Polus, Dr.: **Traitement chirurgical de la pyorrhée alvéolo-dentaire.** Surgical treatment of alveolodental pyorrhea, in: La Presse Dentaire, xxix (11): 494-497. Nov. 1927. Extract from "Scalpel," Rev. belge des Sci. Méd. June. 1927.

Review of the present concepts of etiology, symptomatology, pathology and treatment of periodontoclasia, especially those of the German authors with a description of the writer's own method of treatment. It is observed from radiographs that among subjects with traumatic occlusion those suffering from pyorrhea have smaller roots than are found in those where pyorrhea has not developed. Deficiency disease and avitaminosis are emphasized as systemic causes of pyorrhea. Dry and suppurative types of pyorrhea, are described and the controversy of Gottlieb and Weski over the vertical versus the horizontal types is discussed.

Hygienic treatment is considered, also medication with caustics, splinting by fixed bridge work (the two latter he does not regard favorably), methods of root curettage, thermocautery of Römer, and gingivectomy of Nodine and Gottlieb. The author's own method is then described which is apparently the flap operation as described in American literature by Berger (JADA xiv: 1013-21, June, 1927) and others. Three cases are presented which remained well for three years after treatment.

—*H. J. L.*

33—Ribolla, Romolo: **Su di un nuovo metodo di cura della piorrea alveolare.** A new curative method in pyorrhea alveolaris, in: a Cult. stomat. iv (12): 621. 1927. Abs. Fortschr. d. Zhkde iv (2): 546-547. 1928.

Description of the "Dunlop method." The author has had only good results with the use of this method in cases not too severe.

—*H. A. R.*

34—Robin, Pierre: **Traitement et prophylaxie mécanique de la pyorrhée alvéolo-dentaire.** Treatment and mechanical prophylaxis of alveolar pyorrhea, in: Odontologie lxv: 172-181. Mar. 1927. Rev. odont. xlviii: 127-135. Mar. 1927. Abs. Fortschr. D. Z. iv (2): 547-8, 1928.

Alveolar pyorrhea is according to Robin, a phagedenic dystrophy of the alveolus which finally brings about the laying bare of the root, and loosening of the teeth until they fall out. Suppuration is to be regarded as a complication due to calculus; the presence of calculus is only a sequel of lacking or faulty oral hygiene.

The treatment of alv. pyor. must be directed to the arrest of suppuration with unremit-

ting removal of tartar with its constantly observed trauma. The dentist should, however, never remove the calculus, but leave it to the patient to do this with diligent brushing (hard brushes!), toothpick and dental floss. For 20 years Robin has not removed tartar but has nevertheless cured all his cases. Daily oral hygiene. Mornings, after each meal, and especially evenings, all the teeth are to be thoroughly cleansed, special attention being given to the neck of the tooth.

1. a very small, very hard tooth-brush, 10 to 12 rows of bristles.

2. a thin, 3mm. wide, metallic tooth pick with dull point.

3. a spool of dental floss or waxed twine (an English dentist says three-ply yarn.)

4. a hand mirror.

In cases of bleeding gums an isotonic solution is used.

The tartar vanishes under this treatment, first the visible grayish, later and more slowly the subgingival. Pockets not easily reached by the patient are to be cauterized with fuming H_2SO_4. (sulphuric acid.)

Transl of German Abs.—H. A. R.

35—Schlein, H. and Kerpel, E.: **Die verwendung von antivirus nach Besredka in der Zahnheilkunde.** The field and methods of applying Besredka's antivirus in stomatology, in: Wienerklin. Wchnschr. 1927; Zhn. Rdsch. 1927; per Centrlbl. f. Bakt., 1 Abt. Ref. Sep., 1927. Abs. D. Cosmos, lxx: 240-241, Feb. 1928.

Schlein reports favorable results from the use of Besredka's antivirus in cases of ulcerous stomatitis, acute pulpitis and periodontitides.

Kerpel found that Besredka's antivirus quickly eases the pain in diseases of the gingivae and oral mucosa, and prevents inflammation. A polyvalent staphylo-streptcoccal antivirus is chiefly used. In pyorrhea a specific auto-antivirus was used but this investigation is not yet finished.

36—Shearer, William L., B. A., M. D., D. D. S.: **Pathology of the mouth and surgical principles governing its removal,** in: J. Am. Dent. A. xiv (2): 255-257. Feb. 1927.

This paper is a discussion of *alveolectomy*. The members of the allied specialties of medicine in the opinion of the author are awakening to the fact that better management of the morbid processes of the jaws is necessary. He has been privileged to observe both clinical and operative end results in a large series of cases of systemic manifestations with which mouth infections seemed to be associated. The inefficiency of mere extraction has been definitely proved. Removal of dead bone, of granulomata, and collapse of the bone cavity are called for, as far as possible.

—H. A. R.

37—Smith, Julian, D. D. S.: **Root Surgery,** in: J. Am. Dent. A. xiv (5): 909-914. May, 1927.

The author considers practice in periodontia as based upon three separate etiologic factors, physiologic, pathologic and mechanical. There are three approved plans of treatment:

1. flap operation
2. elimination of the pockets
3. curettement

Medicines have no place in periodontoclasia. Building up immunity and increasing resistance is the real remedy. Careful instruction in home treatment is emphasized.

—H. A. R.

38—Sturridge, Ernest, D. D. S., L. D. S., R. C. S. E.: **Electrotherapy in dental disease,** in: J. Am. Dent. A. xiv: 1867-1873. Oct., 1927.

It is contended no single factor is solely responsible for causation of periodontal disease and that many hypotheses have been propounded, in which it has been sought to attribute definite groups of factors to the true etiology.

None of these theories, however, have been finally accepted. One factor is always included in every grouping of etiological factors and universally accepted, and that is, that bacteria are only secondarily associated with it.

On the assumption that micro-organisms play an important part in the progress of the disease, treatment must be aimed at sterilization and stimulation of tissues. Electro-sterilization of the gingival trough with zinc, copper and iodine ions in conjunction with thorough instrumentation, attention to every etiologic factor and relief from occlusal stress, has brought satisfactory results in practice over a long period of years.

—C. M. G.

39—Wigoder, Sylvia B.: **Artificial sunlight in dentistry,** in: Brit. J. Actinotherapy II: 168. Dec., 1927.

The author has found the ultraviolet ray useful in drying up pus in pyorrhea but hardly definitely curative.

—*H. A. R.*

1928

40—Aiguier, James E., Ph. G., D. D. S.: **Dental medicaments; their care, use and application in every-day practice,** in: D. Cosmos, lxx: 329. March, 1928.

Summarizing the three hundred returns from one thousand questionnaires sent out to practitioners requesting the naming of medicaments used for the treatment of various dental diseases including gingivitis and Vincent's infection. Those endorsed were all non-proprietary remedies. The use and care of the latter are described in detail, making an article of practical value.

—*M. Y.*

41—Allen, A. W. and I. S. Wright, in: Arch. of Surgery, Nov. 17, 1928, p. 834. Abs. D. Cosmos. lxxi: 216, Feb., 1929.

Experiments made by Allen & Wright show that liquor hexylresorcinolis 1-1000 (S. T. 37) (*vide* D. Cosmos, 1927, pp. 559, 882) is not effectively bactericidal for *Bacillus pyocyaneus* in 48 hours or less. It is bactericidal for *Staphylococcus aureus* in some time under 90 minutes, and destroys *Streptococcus hemolyticus* in less than 15 minutes.

42—Basch, J.: **Die Aphthenkrankheit und ihre Behandlung.** Treatment of aphthous stomatitis, in: D. Med. Wschr. July, 1928, liv: 1206-8; J. A. M. A. xcl: 1070, Oct., 1928; D. Cosmos, lxxi: 104. Jan., 1929.

Aphthous stomatitis of adults, which differs from the aphthous stomatitis of children in being of a chronic, intermittent nature, is treated by Basch with local applications of neoarsphenamin. (He says that he dissolves 0.15 gm. in lukewarm water in the ampule. The strength of the solution is not given more definitely.) Two applications are made in succession, the swab being lightly pressed on the aphthae for a few seconds. The entire mucous membrane of the mouth may be painted over; this will abort an early attack. For stubborn cases the strength of the solution may be doubled. He does not claim that this treatment cures the disease as such, but that it brings prompt relief of symptoms.

43—Bramer, Max L., D. D. S.: **Treatment of oral conditions by ultra-violet radiation,** in: J. Am. Dent. A. xv (10): 1951. Oct., 1928.

The initial experiments were started with a Kromeyer lamp, but it was discarded.

He then turned his attention to an open flame carbon arc lamp, which is said to have both a constructive and a destructive ray.

His experiments prove that ultraviolet radiation has the following effects: (1) biologic; (2) bactericidal and (3) curative. The ultraviolet rays cause: (1) sedation; (2) regeneration; (3) stimulation; (4) oxidation; (5) sterilization and (6) analgesia. They have the following action on the blood: (1) marked stimulation of phagocytosis; (2) decrease of abnormal blood pressure, and (3) increase of calcium, iron and phosphorus content. Other effects are: (1) increased metabolism, and (2) production of vitamin D.

A number of interesting cases are reported.

The reaction from the carbon arc lamp is nothing more than ordinary sunburn for the occasion, owing to its deep penetration. In one hundred cases, marked improvement was shown in practically all of them. Definite cures have been effected in pyorrhea, gingivitis, Vincent's infection and post-operative pains.

—*W. H. S.*

44—Bull, F. Bocquet, L. D. S., M. R. C. S.: **Report of case of girl of 12,** in: Brit. D. J. xlix (5): 247-249. Mar., 1928.

Gum tissue markedly hypertrophied; teeth loosened; bone spongy with pus exuding from around the necks of the teeth; patient undersized, anemic, anorrheic. Condition had been present for 2 years. Treatment: excision of gums; extraction of all teeth; alveolus cut away. (Alveolar process probably meant.) Rapid improvement.

45—Bunting, Russell W., D. D. S.: **The control and treatment of pyorrhea by subgingival surgery,** in: J. Am. Dent. A., Vol. xv: 119-125. Jan., 1928.

Pyorrhea is definitely a preventable disease, and can be permanently controlled and

the lesions healed by a simple and rational form of treatment. Therapeutic agents unless accompanied by certain surgical procedures give little more than temporary relief. Local conditions such as calculi, imperfectly fitted fillings, crowns etc.; the impaction of food; excessive occlusal stress and the presence of necrotic tissues must be corrected. Radical surgical operations of Zentler and others do not produce ideal results, and are not advocated. The deposits and bacterial debris can be removed, and the root surfaces curetted by subgingival surgery without the excison or removal of any overlying gum tissue. If thoroughly performed and the lesion subsequently kept clean from secondary deposits the disease will be stopped and a reattachment of the soft tissues to the affected root will take place. It is seldom advisable to attempt treatment of lesions which extend more than two thirds of the distance to the apex or when the tooth moves up and down in its socket.

—*M. M. B.*

46—Cahn, Lester R., D. D. S.: **Electrolytic medication,** in: D. Cosmos, lxx (12): 1211-14. Dec., 1928.

Careful study of the subject and clinical reports result in the following conclusions:

1. The whole story of electrolytic medication is dependent upon the ionic theory of Arrhenius (1887).

2. Ionization does occur without the aid of the current

3. Ionization precedes electrolysis

4. Solutions permeate tissues without the aid of electricity

5. Theoretically, electrolytic medication is sound

6. There seems to be no proof that drugs would not enter the tissues through diffusion without being propelled electrically

7. While electrolysis might aid and hasten penetration, it is agreed by authorities that this penetration is not deep

8. There seems to be ample proof that the caustic action of the current aids in tissue destruction thus enhancing phagocytosis and absorption

9. Clinical reports have shown that results can be obtained without electrolytic medication equally as good as those obtained with this method of therapy

47—Dyment, Murray L. (Toronto, Can.): **Surgical treatment of periodontoclasia,** in: Dominion Dent. J., xl (1): 1. 1928.

A résumé of treatments used is given and Surgical Periodontoclasia (sic) is defined as the partial or entire eradication of the pockets by cutting away the tissue undermined by disease of the peridental membrane, along with as much of the margin of the alveolar process as may be necessary. The structures concerned in the formation of pus pockets and the steps in their development are illustrated by drawings. There are three groups of cases in which this operation may be properly employed.

1. Where there are pockets on the labial and lingual surfaces

2. Where there are pockets on proximal surfaces

3. Where there are pockets entirely surrounding a considerable number of the teeth, and probably of a tolerably even depth.

The most favorable localities for this operation:

1. Lower anterior—most favorable

2. Lower posterior

3. Upper posterior

Upper anterior—least favorable

The prognosis may be based upon (a) personal family history; (b) amount of bony structure lost in relation to the length of the roots.

There are many advantages in surgical eradication which seems the most rational method in securing complete removal of the diseased tissue; also it offers a minimum chance of recurrence. It may be completed in one sitting; and results in a growth of healthy gum tissue overlying healthy bone.

—*H. A. R.*

48—Frison, Leon (Paris): **Goldenberg's vaccine in buccodental therapeutics,** in: J. Am. Dent. A., xv: 912-918. May, 1928.

1. Vaccino-therapy in cases of pyorrhea alveolaris.

2. Vaccino-therapy in buccodental affections.

Conclusions are that we now have a fighting machine not to be ignored, equally efficient against pyorrhea and all buccodental infections. A simple technic is described.

1. Administration of progressively increasing minute doses.

2. Instillation of large doses (without fear of any violent reaction).

3. Application of vaccine dressings when feasible.

In the discussion following Hirschfeld and Papantopulos (Athens, Greece), disagree with the author as to results.

49—Gebert: **Die Entwicklung der Massage in der Zahnheilkunde,** in: Z. Rdschau, xxxvii (50): 1928. Abs. Ztschr. f. Stom, xxvii: 595. June, 1929.

The article emphasizes the importance of gingival massage especially in the after treatment of the paradentoses. This is a means of activating the circulation and its results are readily demonstrable. Loosened teeth become again firmly fixed in their sockets. Spongy and bleeding gums became hard and pink. The patient should be carefully instructed in the importance of this massage. The author quotes Witzel; "Healthy Gums Make Healthy Teeth."

—*Transl. Abs.*
—*H. A. R.*

50—Goldenberg, L.: **Intrabuccal vaccine therapy,** in: Brit. J. Dent. Sci., lxxii: 65-72. Sept., 1928.

The vaccine therapy is intended to combat all infections of the mouth in general and specifically pyorrhea. Suppuration is the principal symptom of pyorrhea alveolaris and all efforts must be directed against it. The vaccine therapy is based upon Besredka's Theory of Local Immunity which states that every organ has its own personality, anatomically, physiologically and pathologically. In particular, microbe infections, fix themselves electively on certain organs as for instance, the bacterium of carbuncles affects the skin. With this hypothesis in order to attain the maximum effect, the vaccine must follow exactly the same road as that taken by the infection in order to produce the disease. Inspired by these theories the idea was conceived of utilizing the vaccine against pyorrhea. Microbes freshly isolated from pus of gums from patients suffering with pyorrhea are cultivated. The vaccine is then concentrated (microbes killed by means of heat and formaldehyde) in such a way that each drop contains a billion dead germs. Even though the microbes are killed, their activities as anti-bodies are conserved. Spirochetes are not included as it is impossible to obtain pure cultures.

The vaccine is injected under the thin external layer of the gums. The method of administration is described and the aim is to increase the resistance and vitality of the tissues but it is powerless to help tissues which are already dead or undermined by necrosis as well as tartar and other deposits. The results have been most encouraging and it is of great assistance in other mouth lesions.

—S. S.

51—Gottlieb, B.: **Die Dunlop-methode zur Behandlung der diffusen Atrophie und der Gingivitis ulcerosa.** Dunlop's method for treatment of diffuse atrophy and gingivitis ulcerosa, in: Ztschr. f. Stomat., xxvi (1): 20-31. 1928. J. Am. Dent A., xv: 2195. Nov., 1928.

In Dunlop's method, a paraffin is used mixed with boracic acid, a paste consisting chiefly of glycerin, boracic acid and oxygen mixed with medicaments and is introduced parenterally into the tissue. The method has proved satisfactory in the treatment of ulcerative gingivitis (stomatocace) and of acute diffuse atrophy of the alveolar bone. Gingivitis hypertrophicans connected with the last mentioned disease characterized by the lowering of the specific dynamic efficacy of albumin and by the prevalence of plasma cells in the histologic picture, disappears without any surgical procedure.

52—Grythe, Olav (Oslo, Norway): **Gingivitis ulcerosa and considerations of its therapy,** in: Norsk Tandlaegefor. Tid., xxxviii (1), 1928. Abs. Fortschr. d. Zhkde., v (2), 1930.

This disease shows in its incipiency small ulcerations upon the interdental papillae and quickly spreads along the gingivae. Often, ribbon or band like ulcerations are present which appear in the molar region and rapidly spread to the mucosa of the inside of the cheek.

The cause of this affection is a symbiosis between spirocheta refringens and bacillus fusiformis.

The treatment is a combination of mechanical and medical means. As a mechanical cleansing agent the atomizer is perfectly adapted

In presence of a very well marked clinical picture, the author recommends the use only of brushes at first, and later of prophylaxis, even then sufficiently painful.

The medication employed by the author

consists of Iodine in 10% glycerine solution; and Acriflavine, 1% in 0.9 NaCl and 8% Zinc.

Transl. of Abs.—H. A. R.

53—Hartzell, Thomas B., D. D. S., M. D.: **Report of five recently cured pyorrhea cases,** in: D. Cosmos, lxx (5): 506-511. May, 1928.

The general treatment was as follows:
Removal of all calculus.
Reduction of pocket depth.

(1) by rubbing with the sides of toothbrush bristles

(2) use of Sulphuric acid and cresol, or Zn and K—Iodine and anhydrous copper sulphate.

Cure determined by passing thin flat probe, point wrapped with cotton, around the entire circumference of the tooth. No pus or blood serum stained the cotton.

Results: Teeth became comfortable, firm, and perform normal function; tissues around them pink and resistant.

—*H. A. R.*

54—Heinrich, E.: **Constitutional treatment of pyorrhea,** in: Z. Rdsch.: Dec., 1928. Abs., Int. J. Orthod., p. 185. 1929.

The author writes at great length on this subject although prophylaxis rather than treatment is the word best used as the writer admits. This subject is a difficult one for we know little of the predisposition, and the affection has always been treated as local . . . We should expect to find some anomaly of nutrition beginning in the intestine itself and expressed by some change in the normal blood formula. However, every case thus studied should be individualized. Pfaff, who wrote in 1902, thought correction of the digestion had not only a preventive but a remedial effect, and even advised the use of a digestive powder. Others have insisted on complete daily evacuation of the bowels. The author has made a study of years along this line, and finds that such a course is useful in gingivitis but is of no benefit in pyorrhea *per se*. More promising is the subject of a special diet and quite recently alkaline predominance has been found to be injurious in all conditions of wound healing, while conversely an acidosis diet is found beneficial. Apparently the question of diet is largely personal. The author mentions one case in which a vegetarian became worse after going on a meat diet. The personal equation is probably active in this affection for some patients seem to have the disease greatly aggravated by psychic perturbations. The author hardly does more than to point the way to a systematic investigation of this problem from a constitutional angle.

—*Copy.*

55—Hentze, Dr. Albin (Kiel, Ger.): **Die Entzündungen der Mundschleimhaut,** in: Fortschr. d. Z., iv (1): 669-698. 1928.

All forms of stomatitis are reviewed in turn.

Stomatitis Plaut-Vincenti, p. 672, Work of Golob, Bloodgood (both of whom prefer *Sodium perborate* in the treatment of this affection) is cited. Wichels uses *Pyoctanin;* Castermann and Delpiano give intra-muscular injections with *Mesurol* (a bismuth preparation); Marschick uses a spray of *pyocyanose.*

Stomatitis scorbutica.

Stomatitis aphthosa; lichen, lupus; pp. *675-677.*

Gingivitis hypertrophica p. 681. Saraval gives the differential diagnosis between fungous gingivitis and fibrous angiomatous new growths; tuberculous syphilitic or actinomycotic tumors and epulides. He shows that there are intermediate stages between this form of gingivitis and epulis, and that the majority of epulides are to be referred to chronic inflammatory causes. Delater also puts the "expulsive proliferating gingivitis" together with epulis as similar manifestations. They strengthen Hentze's position that gingivitis hypertrophica, epulis, and the gingivitis of mother-of-pearl workers must be placed in the ranks of progressive paradentoses.

—*H. A. R.*

56—Holland, W. C.: **Surgical treatment of pyorrhea.** U. S. Vet. Bur. Med. Bull. iv: 863-864. Oct., 1928. Abs D. Cosmos, lxxi: 107. Jan., 1929.

(1) In treating pyorrhea, cases must be carefully studied both from a physical and dental standpoint, being sure the patient has no systemic disease (e. g., chronic nephritis or tuberculosis) to interfere, and that the teeth are in proper occlusion.

(2) The entire pocket must be eliminated and the neck of the tooth made smooth, so that a healthy blood-clot will be formed.

(3) All exposed surfaces and clot should

be covered by the pack, and it should remain until new tissue has regenerated.

(4) Coöperation of the patient by vigorous brushing is necessary in order to obtain the required results.

(5) This form of technique will eradicate pyorrhea without pain in a much shorter time than can be done in any other manner.

The instruments used and the technique of the operation are briefly outlined.

—*Copy.*

57—Huguenet, Maurice (Paris): **Traitement de la maladie de Fauchard par la prothèse de contention,** in: Semaine dentaire, x (7): 155. 1928.

Author believes that by the fixation of the loosened teeth their alveolodental joint finds the best conditions for a fibrous ankylosis "that is physiologically possible." He uses a fixed bridge, the essential condition for which is the use of three pillars, better still, more, not lying in a straight line.

58—Hutchinson, R. G., Jr., D. D. S.: **Treatment of advanced cases of periodontoclasia,** in: J. Am. Dent. A., xv: 1288. July, 1928.

The statement is made that fundamentally there is no difference in treatment between the advanced and the incipient case, though the former naturally requires a more extensive procedure. The treatment as outlined consists of the operation of subgingival curettage, correction of occlusal stress and the establishment of good hygiene. "It is seldom if ever necessary to resort to the removal of overlying soft or hard tissue in order to reach the infected areas, if the operator possesses the degree of skill and knowledge which justifies him in undertaking such treatments." The ruthless destruction and removal of large areas of healthy soft and hard tissues is unnecessary, unjustified and pernicious. Good surgery aims at conservation of living tissues, not destruction." All treatment should be carried out with the minimum of trauma and in the shortest possible time consistent with thorough work. Medication is of little value though solutions of iodine are helpful. Artificial stimulation is recommended but can be overdone. Coöperation of the patient in the post operative care of the mouth is essential to the best results.

—*A. H. M.*

59—James, Austin F., D. D. S.: **Preliminary steps in the prevention of pyorrhea,** in: J. Am. Dent. A., xv (6): 1072-1073. June, 1928.

The underlying principal in the practice of periodontia should be, to put all tooth surfaces in such a condition that the patient may be able to keep them clean. Preliminary steps in prevention means in the author's practice, not only to put every exposed surface of every tooth in condition so that the patient can keep them clean, after being taught, but also to remove every other source of irritation. Correction of diet and information gained regarding systemic complication are of value but the local problems arising in the mouth which prevents the maintenance of proper hygiene, cannot be ignored.

Instrumentation is thoroughly described.

Both the enamel and cemental surfaces will take a finish that can only be described as a burnished surface. This is accomplished only by hand polishing with the wood point in the porte polisher. It is a rubbing down process that can be accomplished only by a definite rubbing down stroke and the only method that can be used without some danger to these tissues. Surfaces where such polish has been obtained will remain in this condition throughout periods of more or less serious neglect.

In any mouth where there are unclean tooth surfaces and gingival inflammation, it is ridiculous to presume that there are diet complications or systemic conditions involved until everything has been done from the hygienic standpoint to clear up these areas.

The periodontists should assume responsibility of mechanically removing these conditions and at the same time to teach the patient the mechanics of keeping tooth surfaces clean and building up tissue cell resistance.

—*W. H. S.*

60—Joyeux: **Traitement de la pyorrhée by pulvérisations,** in: Presse dentaire, May, 1928. Abs., Brit. Dent. J., xlix: 866. Aug., 1928.

Claims that he can cure pyorrhea by his method using atomisers with two different solutions. The first, applied for two or three minutes, is a solution of H^2O^2 (20 vols.) tepid and pure; the second, used after rinsing the mouth, is a solution of fluorhydrate of ammonium (fluosalyl of commerce) diluted

to half strength with water. This treatment is carried out for about 5 visits without touching the tartar with any instrument. After this the inflammation will subside and whatever particles of tartar have been left behind by the atomizers can be easily removed by lightly touching them with fine scalers. Ten visits will complete the cure. In refractory cases where pus has been abundant, the use of *rhodarsan* or *synthol* has proved efficacious.

—*Copy.*

61—Keller, Konrad: **Die akute und chronische Periodontitis und ihre Behandlung mit Septojod,** in: Schwz. Mschr. f. Z., xxxviii: 281-343. 1928.

Reviews of fifty-six cases treated chiefly with different solutions of Iodine. The technique of injection, etc., is given.

—*H. A. R.*

62—Kerpel, Edmund: **Die Anwendungsgebiete und Applikationen Methoden des Antivirus Besredka in der Stomatologie.** Field and methods of applying Besredka's Antivirus in stomatology, in: Ztschr. f. Stomat., xxvi: 116-117, 1928. Abs. Cosmos, lxx: 240. Feb., 1928.

According to Kerpel, Antivirus Besredka is a preparation of bouillon cultures filtered and incubated for several days after which it is no longer sensitive to heat and non-toxic, —having an activity directly opposite to the heat-sensitive virus of the same pathogenic germ. There are polyvalent and monovalent antiviri the latter in contrast to the former only from one bacterial strain. The author does not go into this theory. For its use in dentistry the important condition is that a sufficient amount of the antivirus fluid is brought for a certain time into contact with the focus of infection.

The antivirus should not be injected and each ampule should be used at once. The excessive flow of saliva should be controlled by atropine.

The reviewer (Münzesheimer) about 2 years ago used the vaccine by submucous injection, but had no results in paradentoses. The cases treated successfully with the Goldenberg (Paris) vaccine, we now recognize as *stomatitis* ulcerosa and *not* paradentoses.

—*Copy*

63—Laurençon, J.: **The use of indirect actinotherapy in disorders of dental development,** in: Odontologie, lxvi: 348-353. May, 1928.

Cases are reported and the use of l'ultravitamine 4, the author's own preparation, is stressed.

64—Logan, W. H. G., D. D. S.: **What teeth should be extracted?** in: D. Digest, xxxiv (7): July, 1928. Abstr. in: Int. J. Orth., xiv: 927. Oct., 1928.

"Teeth affected by pyorrhea should be treated conservatively if only the gingival third is involved and even the middle third, —although in this case, the chances are against success. Only in teeth with the apical third involved should extraction be done forthwith."

65—McCall, John Oppie, A. B., D. D. S.: **The measure of success in periodontic practice,** in: J. Am. Dent. A., xv: 279-284. Feb., 1928.

Attention is called to the desirability of setting up some standard by which the success of periodontic treatment may be judged at the same time that it calls attention to the fact that success in periodontic treatment is possible.

To reduce the inflammatory process in the gingival tissues and diminish the flow of pus about teeth is not sufficient: one should aim at pocket elimination. "No longer should he (the general practitioner) be satisfied with more or less increased firmness of the teeth treated, slight improvement in the coloration of the gingival tissues and mere diminution, not cessation, of pus flow."

It is necessary that the abnormal redness and contours of the gingivae be corrected, that the teeth become firmer in their sockets and that closure of pus pockets follow. "Persistance of the pocket may be condoned, provided it is found by microscopic examination that pus formation has ceased." As an aid to reattachment, McCall advocates the use in the pocket of a depilatory composed of the following:

Sodium sulphide	150 grams
Sodium carbonate	40 grams
Aqua q. s. ad	2 ounces

This is introduced into the pocket on paper points or wisps of cotton and allowed to remain for ten minutes. After removal the

inner wall of the pocket is curetted with a small curette. Preliminary to such treatment it is necessary that the root surface be curetted, the occlusion corrected when necessary, normal contacts be established and the gingival circulation stimulated. By this combined treatment, it not only "serves as a means of securing that most desirable result in treatment, the closure of the pocket, but furnishes a standard of success in treatment."

—*A. H. M.*

66—Merritt, Arthur H., D. D. S.: **The principles of preventive periodontia,** in: J. Am. Dent. A., xv (6): 1086-89. June, 1928.

Merritt correlates the papers of Doctors James, Bricker, Stillman and Weller, read as a symposium before the A. A. P., Oct. 20, 1927; he reviews each and summarizes the main points to the following effect:—The factors which must be most seriously considered are the maintenance of oral hygiene; the elimination of irritations from the mouth; active and intelligent coöperation on the part of the patient secured; gingival stimulation brought about through vigorous use in mastication, supplemented by correct and efficient use of the tooth brush; wider knowledge and application of the principles of dietetics; a deeper and broader understanding of obscure systemic conditions.

—*H. J. L*

67—Mueller, E.: **Innere Behandlung von Zahn—und Kieferkrankheiten.** Internal treatment of teeth and jaw diseases, in: Dtsche zahnärztl. Wchnschr., xxxi (2): 49-83. 1928.

In alveolar pyorrhea the so-called constitutional factor is rightly emphasized. The significance of gout for its pathogenesis and hence for its intradental treatment was highly estimated but even the actual concurrence of gout and pyorrhea does not positively determine the causal metabolic relations, any more than the attempt to influence dental conditions by therapeutics of metabolism. In the extradental treatment of gouty pyorrhea, regulation of the manner of living is far more important than all medicaments. In the practice of internal medicine we see severe ulcerous forms of stomatitis accompanied by gingivitis, especially by pyorrhea. The author suggests the use of neo-salvarsan and atophanyl; but every doctor has his favorite treatment. In dental diseases, particularly alveolar pyorrhea and dental caries we are gradually coming to place the emphasis on prophylaxis; we need an active scientific and practical coöperation between physician and dentist.

—*H. A. R.*

68—Münzesheimer, Fritz (Berlin): **Erfahrungen mit Sulfuraeth,** in: Zahnärztliche Rundschau, xxxviii (32): 1346. 1928.

"*Sulfuraeth*" is an ethyl-sulphuric acid used for cauterization of the supra-alveolar gingival pockets. This may be as radical as the surgical procedure but is without hemorrhage and entirely painless.

—*H. A. R.*

69—Perna, Amodeo (Bari, It.): **La proteinoterapia aspecifica in odontoiatria.** Non-specific protein therapy in dentistry, in: Stomatologia, xxvi (8): 861. 1928.

The author has used these non-specific protein bodies for about three years in 100 cases of severe and medium severe *pyorrhea alveolaris*, etc. In pyorrhea no favorable alterations of conditions occurred.

70—Pozzo, L. da (Naples): **Stomatitis ulcero-membranosa,** in: Stomatologia, xxvi (5): 558-63. 1928. Abs. Fortschr. d. Z. v (2): 778. 1929.

There are cases of ulcero-membranous stomatitis which are fully healed in a short time on a diet rich in vitamins with no local treatment whatever. Beside the familiar local causes, a systemic cause often comes into play, as vitamin deficiency; and for this reason the diet in these cases should receive careful attention.

71—Ramorino, Dr. Camillo (Naples): **Le stomatiti ulcéro-membranose di origine dentaria.** Ulcéro-membranous stomatitis of dental origin, in: La Stomatologia, xxvi (2): 158-177. 1928. Abs. Rev. de Stomat., xxx (9): 630. 1928.

From his studies of patients at the dermosyphilopathic clinic of Florence and at the Hospital Lariboisiére where he has examined the history, pathology, bacteriology, symptomatology and treatment, he concludes that stomatitis ulcéro-membranous should not be considered as a specific and epidemic disease. The fuso-spirillary bacilli are found in the

same forms in dental origin as in those of infectious origin. The treatment must be spirillicidal.

—*Transl. abs. H. A. R.*

72—Redalieu, A.: **L'antivirus Besredka dans le traitement des maladies de la cavite buccale.** Besredka's antivirus in treatment of diseases of the mouth, in: Presse médicale, xxxvi: 386-88. 1928; per J. A. M. A. May 26, 1928. Abs. D. Cosmos, lxx (7): 746. July, 1928.

Redalieu applies sponges dipped in B's antivirus directly to the mucosa of the mouth, compressing the excretory ducts of the salivary glands, or using a salivary pump if necessary to prevent dilution. He concludes that the specific local application of antivirus can be used with success: (1) in acute and chronic gingivitis and stomatitis; (2) in alveolar periostitis and osteomyelitis; (3) in septic complications of the dental alveoli and soft parts following extraction of teeth or other operations; (4) prophylactically against the complications which may follow any surgical intervention; (5) to relieve the itching and pain due to inflammatory conditions, in dentition in infants or adults; (6) as an auxiliary method in the treatment of alveolar pyorrhea.

73—Roush, R. R., D. D. S.: **The surgical eradication of pyorrhea,** in: D. Cosmos, lxx (2): 125-131. Feb., 1928.

Description of the technique of the treatment of pyorrhea by the surgical method. This is accompanied by several case reports well illustrated, and the results shown fully warrant the claims for the success of this treatment.

"If a tooth is to be retained, modern treatment demands the cessation of pus formation, therefore the disease must be eradicated instead of retarded."

"Surgery is the means by which this unattached and unsupported gum tissue and the underlying necrotic tissue can be removed to bring about the desired condition. The gum flap has no physiological use after detachment of the periodontal membrane, for it is only a pus retainer, and cannot in any way be made to reattach itself to exposed infected cementum, as it has no osteogenetic function.

"The surgical removal of the unsupported gum tissues produces free drainage, enables thorough curettement of the diseased bone, facilitates the removal of subgingival calculus and simplifies the patient's post-operative care."

—*S. R.*

74—Rushton, Wm.: **President's address** (See page 136). Proc. Roy. Soc. Med., 1928.

Dr. Rushton remembers the first time they were asked what they knew about pyorrhea alveolaris. Most of them knew nothing. They used to call it Riggs Disease, and the knowledge of its cause and cure was about the same then as it is now. The importance of coöperation on the part of the patient is pointed out and gingival massage recommended. The writer has no faith in mouth washes used in pyorrhea.

—*H. A. R.*

75—Smith, Julian, D. D. S.: **Operative procedure in periodontia.** (This is a correlation of papers by Hutchinson, Towner, Maves, Schott and McCall, covering different phases of treatment.) in: J. Am. Dent. A., xv (7): 1315. July, 1928.

Case histories are essential items in diagnosis. To neglect this important phase of diagnosis is to isolate an influence that might prove the dividing line between success and failure. Cases cannot be treated successfully by stereotyped methods. Treatment must be modified to suit each case.

The study of occlusal relationship, and the correction of occlusal faults is imperative. Research work has established many important facts, but there remains a great field for development. The only feature in treatment, having definite standing, is surgery of the root surface. The root surface is the holding medium for bacteria, the point from which infection is distributed, and also the seat of calcific deposits.

The skill required to curette a root surface and to remove all the destructive influences, is acquired only by long and diligent effort. The general principles may be taught; but the delicate sense of touch, which enables one to see with the end of an instrument the character of substance it is in contact with, can be attained only through years of constant practice. The ruthless destruction of large areas of healthy soft and hard tissue is unnecessary.

The correction of occlusion is a phase of

treatment which may call for the assistance of the orthodontist, or the prosthodontist, where it is impossible or impractical to establish proper occlusal balance otherwise. All masticating movements start and finish in central occlusion. Open bite cases require an additional starting point, viz: a consideration of the amount of opening necessary. Such operations, to be of value, must be in the hands of scientific operators. The periodontist should be the final judge in deciding when the desired result has been obtained. The periodontist is the real mouth internist. Upon his judgment depends the management of occlusal balance in natural teeth.

Restorative appliances should be well designed, and those of the removable type should be placed in a manner so as not to divert stress to the adjoining teeth. For short restorations, the fixed bridge is desirable. It acts as a splint for teeth whose support is impaired, and tends to restore the integrity of the periodontium. In most cases it is a much more desirable type of restoration than the removable piece.

—*R. S. T.*

76—Stillman, Paul R., D. D. S.: **Periodontoclasia: its significance in the field of partial restoration,** in: J. Am. Dent. A., xv: 710-715. April, 1928.

Every partial restoration, whether it is a one-tooth bridge or an extensive partial denture, depends for its ultimate success on the health and integrity of the periodontal tissues of all remaining natural teeth.

Balancing the occlusion before undertaking the construction of a partial restoration is a vital step in correct partial denture procedure.

Admitting value of reproduction of natural cusp form in supplied teeth, a warning is sounded lest the practice be carried so far as to imitate deformed teeth.

Positive injunction is given against the effort to build in the mouth of a middle aged patient, cusps which have the pronounced outlines and inclination of youth.

Referring to the practice of "opening the bite," approval is grudgingly granted in an occasional case, but, (quoting the essayist) "as a general rule, it is safer, when teeth exhibit alveolar resorption, not to 'open the bite.' "

—*C. M. G.*

77—Stillman, Paul R., D. D. S.: **How to control dental and periodontal disease,** in: D. Cosmos, lxx: 439-445. April, 1928.

In order to control dental and periodontal disease, it is necessary to have a concept of health in our minds at all times. Physiology or function is important if we are to control disease. Pathology must be studied yet more and more do we realize that it becomes imperative to have proper function if we are to establish health. Where function is interfered with through the agency of traumatic occlusion, and pathology develops, steps must be taken to rid the mouth of the etiological factor. "A clean tooth never decays," has lost many of its former advocates for it is realized that cleanliness alone is no more capable of preserving health in the mouth than it is for the body as a whole. We are ready for the concept that health depends largely upon a stimulation arising out of function, viz: exercise. As the modern dietary does not provide that degree of function in mastication which is requisite for the highest degree of dental health, we find it necessary to resort to artificial means of providing the effects of exercise. A method of gingival stimulation is described, and by this method the brush brings health and resistance to the entire dental and periodontal composite. When the brush is properly applied, the gums become pink and firm and the teeth attain a high translucency. Sensitiveness is diminished, erosion is checked, perceptible recalcification in cases of cervical caries is a frequent occurrence.

—*S. S.*

78—Taviani, Siro (Naples): **Ricerche di terapia ultravioletta nella cosidetta "piorrea alveolare."** Ultraviolet therapy in pyorrhea, in: La stomatologia, xxvi: 187 and 258. Mar., 1928. Rev. de Stom., xxxi: 184. Mar., 1929.

After long researches in the use of ultraviolet rays in pyorrhea, this form of therapy is only moderately efficacious depending on its use by means of lamps of quartz, mercury vapor or ultra-actinic carbons. The use of the light is clearly rendered more efficacious by being associated with topical treatment, also baths, diet, etc., being added with benefit.

—*H. A. R.*

79—Towner, J. D., D. D. S.: **Operative procedures in periodontia; surgical treatment,** in: J. Am. Dent. A., xv: 551. 1928.

Reference is made to three different types of operative procedures: subgingival curettage, gum resection and the flap operation. While favoring the conservative procedure of subgingival curettage, it is Towner's opinion that in certain instances, radical surgery is indicated to the extent of gingival resection and slight curettement of infected alveolar process when it has become denuded by disease, though he admits that he does not employ radical measures as a routine practice. It is his belief that "when the treatment is based upon a working knowledge of the histologic structures involved, the pathogenic organisms present, the true disease picture and the physical background on which recovery depends, radical surgery seems contraindicated as routine practice. The favorable results of radical operations are not by any means final, and for this reason, thought should be given subsequent treatment. Personal experience and clinical observations emphasize the fact that regeneration of alveolar structure seldom, if ever, follows alveolectomy; in truth the contra-process usually obtains in that a certain amount of resorption follows this heroic treatment."

Gum resection as generally practiced, is usually "done at the expense of reattachment and possible regeneration, which must be depended upon for more desirable results."

The immediate object of all periodontal treatment is "the removal of serumal deposits, the curettement of denuded and infected cementum and the removal of degenerated and necrotic periodontal fibers and alveolar process." Referring to the granulating surface of the inner wall of the pocket which resembles granulomatous tissues, he calls attention to the fact that in reality it is not a granuloma, being less well organized and more friable. It is a tissue that "is easily digested and usually disappears when the etiologic factors are removed. The clinical fact that this does occur, is definite evidence against reduction of all vertical pockets to the horizontal type, as in radical surgery."

This is an observation of the utmost importance for one of the reasons advanced in favor of gum resection, is the necessity of removing the granulomatous tissue which lines the inner walls of periodontal pockets, at the same time curettage of the alveolar border, both of which Towner believes to be unnecessary. This is concurred in by Berger, Journal A. D. A., Vol. 14, p. 1019.

—*A. H. M.*

80—Wack, Louis, D. D. S.: **Pyorrhea—the disregarded,** in: The Dental Digest, xxxiv (7): 485. 1928.

Author does not believe that any one, anywhere, with any kind of treatment short of extraction, ever cured a case of pyorrhea. But there is not the slightest excuse for not treating it, checking its course, lessening the resultant toxic absorption and retaining the teeth as long as possible.

—*J. L. W.*

81—Ward, A. W., D. D. S.: **The Surgical eradication of pyorrhea,** in: J. Am. Dent. A., xv: 2146. 1928.

Attention is called to the different therapeutic remedies which have been employed in the treatment of pyorrhea and their failure emphasized. The progress made by the different specialities in dentistry are then approvingly referred to and compared with the failure of periodontia, the followers of which continue "in the errors of their preceptors, scraping root surfaces covered by infected gum tissue, endeavoring by the removal of the products of disease to eradicate the disease," just as was being done twenty-five years ago. These are referred to as "periodontists of the old school." Their methods of treatment are unavailing because, first, "the operator is unable to see the surface on which he is operating"; second, because "the gum tissue which is part of the infected pocket is permeated with bacteria"; and third because "no care or operative measure is given to the alveolar process surrounding the affected tooth roots." It is further stated that "old methods are of no avail in the eradication of the disease because the infected gum and detached periodontal membrane left intact are a source of reinfection."

He advocates treatment by what he calls "the obliteration method" by which is meant a "procedure which does away with those structures which constitute the pocket; that is, all soft tissue above on the lower teeth, or below the alveolar crest on the upper, when diseased and detached." Following this "obliteration" a specially designed cement or surgical packing is placed about the teeth for the purpose of immobilizing the tissues

operated upon and to shut out infection. This is allowed to remain for ten days.

The error in Dr. Ward's reasoning is that "old methods are of no avail" and that periodontia as it is at present practiced consists in "scraping root surfaces covered by infected gum tissue."

Starting from a false premise it follows naturally that one arrives at a wrong conclusion no matter how logical may be his deductions. The lesson to be learned is that both conservative and radical measures have their place in the practice of periodontia, and that the wise clinician is he who keeps his mind open to the advantages of both, using neither method to the exclusion of the other.

—*A. H. M.*

82—Weaver, E. J., D. D. S.: **Present status of the treatment of periodontoclasia (pyorrhea),** in: J. Am. Dent. A., xv: 2330. Dec., 1928.

In this article Weaver deals at some length with the possible predisposing systemic factors associated with, and responsible for periodontoclasia and concludes with the statement that if in its treatment the systemic condition be first eliminated, the prognosis will be correspondingly improved. What these "physical conditions" are and how they operate in the causation of periodontal disease is not revealed except for a casual reference to diet, constipation and diabetes. Reference is also made to the importance in these cases of blood examinations with especial care being given to a differential count. Referring to his own experience in this field the statement is made that "usually in a low red count, and with or without a variation in the leukocyte count, where we find a diminution of the polymorphonuclear count with a raising of the small and large lymphocyte count, we can expect to find head infection, in teeth, tonsils or accessory sinuses."

Regarding the present status of treatment and while saying he is "not in favor of some of the very radical forms of surgical treatment," he asks the question "Isn't reasonable surgical treatment the most sensible method of eradicating the infected tissue, and isn't the chance of recurrence less to be expected in this method of treatment?" In the postoperative treatment he emphasizes the importance of brushing the teeth and gums and in cases surgically treated, recommends the application of the ultraviolet ray, claiming that it relieves the sensitiveness of exposed root surfaces.

—*A. H. M.*

83—Willner, Dr. Hans: **Behandlung der Parodontitis marginalis u. Paradentosen mit Trikresolformalin,** in: Korresp.—bl. f. Stomat. Heft 2, 1928. Abs. Ztschr. f. Stom., xxvi: 1128. 1928.

In conclusion the author claims that according to Huebner it may be said that this substance is successful in the lighter cases. If it should be shown by histological researches that the harmful effect of Trikresolformalin on the periodontium is especially questionable in the paradentoses, and only evident in cases of over dosage, then this treatment may secure an estimable place for itself.

—*H. A. R.*

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84—Adair, Robin, B. S., M. D., D. D. S.: **What the patient should know about pyorrhea treatments,** in: J. Am. Dent. A. xvi (1): 182-184. January, 1929.

(An article arranged for laymen and patients.) Warning is given as to the need of treatment when symptoms are apparent to the patient. Coöperation during and after treatment by the patient is thoroughly stressed. Attention is called to the necessity of finding an artificial substitute for the vigorous exercise which the teeth and gums had when a different diet prevailed. This artificial substitute and stimulation may be the tooth brush. The acquiring of a definite technic of brushing is absolutely necessary for proper stimulation of the gums. It may require several sittings, to train the patient in the proper method of handling the toothbrush. Some patients are unable to acquire a brushing technic which is effective. Additional instructions and demonstrations in the mouth and on the typodont should produce a better result. Patients should be made to spend a definite length of time at the brushing operation, timed by a clock or an egg timer.

The patient is warned that the operator cannot guarantee results which will last indefinitely. The neglect which caused the disease in the first place will also cause its recurrence. Patient is also advised that the perio-

dontal diseases are preventable and that prevention is more definite than the result of treatment after a condition is established.

—*W. H. S.*

85—Adair, Robin, B. S., M. D., D. D. S.: **Postoperative treatment for periodontoclasia, with suggestions for satisfactory results,** in: J. Am. Dent. A. xvi (5): 887-894. May, 1929.

One of the oldest methods of pocket protection after curettage was devised by the essayist's father about forty years ago and is still used. It is made in two separate bottles. The iodine preparation is made by using iodine crystals, filling the bottle about one-fourth full then adding pure wood creosote making a saturated solution. If a very thick and syrupy solution is desired, it is best to have undissolved crystals in the bottom.

The tannin preparation is made by filling a wide-mouthed bottle full of tannin, leaving only a small space at the top. Continue to add glycerine until all the tannin is dissolved and the preparation is about as thick as honey. These preparations are applied after the tongue and cheeks are blocked with cotton rolls, gums dried, applying the iodine solution first over the opening of the pocket, followed by the tannin preparation, which is permitted to flow over the surface of the gums and pockets. No effort is made to introduce either solution into the pocket. When the saliva reaches these areas a tannate of albumen will immediately be formed and will keep the pockets closed for twenty-four hours at least. This remedy is antiseptic, germicidal and astringent, and prevents foreign substances from entering the pockets.

Report on questionnaire sent to periodontists, general practitioners and to a few exodontists:

The consensus of opinion was that pyorrhea can be cured and is cured daily in many offices.

To produce the best end-results, the patient should be given increased responsibility in the care of the mouth.

If good judgment is used at the time of the treatment in condemning hopeless teeth, recurrences of a serious nature do not occur if case is correctly diagnosed and treated, followed by adequate post-operative care.

Cure should mean a restoration to health and does not imply restoration to the original condition.

Correct instrumentation, effective mouth hygiene, correct and complete diagnosis and prognosis and enthusiastic coöperation from the patient are factors in satisfactory treatment.

The periodontist's ability as a teacher is also a most important factor.

Gum stimulation must become a fixed habit with the patient.

—*W. H. S.*

86—Barzilaï, Victor: **L'electrargol en stomatologie. L'argent colloidal dans les suppurations dentaires.** Colloidal silver in suppuration of dental origin, in: Revue de Stomat., xxxi (5): 259-283. May, 1929. Semaine dentaire, September, 1929.

After the usual historical review of the subject cases are described and the uses of colloidal silver, with blood examinations, temperature charts, etc.

The author concludes that ,(1) electrargol is an agent of choice in osteophlegmon, venous phlegmon, adenitis, wisdom tooth difficulties and peritonsillar abscess; (2) it is specially an adjuvant to treatment; (3) its use is to determine an energetic phagocytosis, as well as to strangle an infection at its beginning, or to hasten the evolution of its course; (4) its results depend on the earliness of its use, on the proportion of the dose to its effect and on the general condition of the patient; (5) It is contraindicated only in severe lesions of heart, liver or kidneys; (6) Daily intramuscular injections of 10 to 20 cc. are given in series of five to ten, up to a maximum of 100. cc.

—*H. A. R.*

87—Berenzon, F. and W. Grosset: **Le traitement médicamenteux de la pyorrhée alvéolaire sous le contrôle bactériologique,** in: Rev. de Stom. Apr. 1929. xxxi: 223-230.

Pyorrhea alv. is regarded as a syndrome in which (1) the internal factors tend to destroy the life of the tissues; or (2) the local and external conditions may play a chief part. We are thus obliged to aim our treatment in two different directions.

Our system of therapy has for aim:

1 To change the soil which engenders the pyorrhea.

2 To remove local causes of irritation and the traumatisms of occlusion.

3 To nullify infection and put an end to suppuration.

We must put forth effort in three directions:

a. To clear up the general causes;

b. To regulate the condition of the teeth and prostheses, etc.

c. To fight against infection.

In their work the authors seem to have followed the French school of thought. They discuss three theories:

1. Theory of polymicrobic infection (Lebedinsky).

2. Theory of a specific spirochetic infection (Cavalié, Mandoul, Kritchewsky, Séguin, etc.)

3. New polymicrobic theory (Goldenberg).

Goldenberg believes that the strepto,—staphylo—and other aerobic cocci fixing free oxygen make it possible for the spirochetes to form ulcers and necroses. In conclusion:

1. Examination of the buccal flora may serve as a guide in the symptomatic treatment of pyorrhea alveolaris.

2. This examination is of prognostic value.

3. It is not to be doubted that thanks to examination bacteriologically, we shall finally clear up the dynamic of this or that pyorrhea remedy.

These first two propositions are proved; the third is to be further studied.

88—Besredka, Prof. A.: **Antivirus therapy in infectious diseases.** See page 1591-2 for pyorrhea alveolaris, in: Proc. Roy. Soc. Med. xxii (2). 1929.

This disease occupies a place apart. After the reasearches of Prof. Besredka pyorrhea began to be treated by local vaccine therapy.

Frison and Libouton claim the results of this treatment are as follows:

(a) Almost always early and complete disappearance of suppuration. (No discharge after the fifth injection)

(b) Complete transformation of the gum tissue which passes through a series of color changes from wine-red to normal coral-pink; tissue becomes gradually firmer until the gums can be vigorously brushed.

(c) Looseness lessens sometimes to an astonishing extent, sometimes it disappears.

The author does not believe that antivirus is the complete answer to the question of pyorrhea. This is so complex and serious a disease that many weapons must be used against it, of which antivirus is one of the most valuable.

—*H. A. R.*

89—Boenheim, Dr. med. Felix: **Organtherapie besonders bei Paradentose.** Organotherapy in paradentosis, in: Z. Rundschau, xxxviii (2): (Paradentium I (2): 71-75). 1929.

The treatment of endocrine ailments concerns the dentist because endocrine factors play a part in the—next to caries—most frequent dental disease, i. e., paradentosis.

The endocrine gland preparations are reviewed in detail. They may be administered by inhalation, intranasal diffusion, subcutaneously, intra-venously or by stomach. In the latter case they may be given fasting or, as in the writer's practice, after eating; the author prefers rectal administration if not feasible by stomach. The dosage varies between large massive and homoeopathic doses, with intervals between series. Overdosage may have serious sequelae. That unfavorable results are frequent is not to be wondered at. If the causes of error are sought they may lie in faulty diagnosis with false indications for treatment, faults in the manner of administration, incorrect dosage, or, finally in poor preparations. We are still far away from the goal of permanent cure.

—*H. J. L.*

90—Bryan, A. W., D. D. S.: **The relation of the general practitioner to periodontia,** in: J. Am. Dent. A. xvi: 618-623. April, 1929.

The author endeavors to show that the general practitioner bears a relationship to periodontia in several ways.

1. Sees the mouths of young patients and recognizes early lesions.

2. Has a definite responsibility in his restorative work and produces fillings, crowns and bridges with due regard to balanced occlusion.

3. He can and should treat the incipient and milder cases.

91—Fowlkes, C. B., D. D. S.: **Definite technique for prevention of (incipient caries and) early periodontal lesions,** in: Dent. Outlook xvi (5): 175-177. May, 1929.

The author has learned from the experience of twelve years that by a definite technique followed at the chair with even fair coöperation on the part of the patient, almost 75 to 100 per cent of the diseases of the teeth and gums may be prevented. The dentist must understand diagnosis thoroughly; he must be willing to meet conditions as they arise. He should be dextrous in instrumentation, able by his cultivated sense of touch to feel conditions that he cannot see, able to instruct the patient. Every case should be diagnosed and treated from the standpoint of prevention, and the patient should be carefully taught and drilled in active coöperation.

—*H. A. R.*

92—Frankel, H. G.: **Ultra-violet rays in treatment of dental disease,** in: Arch. Phys. Ther. X-ray. Jan., 1929. Abs. J. Am. Dent. A. xvi: 754. Apr., 1929.

The author lists the following conditions as subject to the beneficial influence of the ultra-violet ray: dental caries, all infections of teeth and gums including gingivitis, ulcers of all types, cellulitis, periostitis, Vincent's infection, acute alveolar abscess, all inflammations of the peridental membrane, neuralgia, pyorrhea, post-operative pain, post-operative infection, orthodontia and faulty development of body tissue due to lack of calcium. The last mentioned may be corrected by "tonic radiations." The ultra-violent ray has been found also to act as a germicide. In gingivitis, the teeth are scaled and an erythema dose of the ultra-violet ray is then given, at two inches, for one-half minute. Periostitis is treated in the same manner, except that, in localized cases, a quartz rod is used either in contact or under compression. Care is taken not to blister the tissue. In Vincent's infection, the entire mouth is irradiated including the tonsils and posterior wall of the pharynx to insure complete eradication of the infection. In the author's experience, this treatment has proved virtually a specific for this condition, from two to twenty or more exposures being necessary. Use of the ultra-violet ray is advocated in all cases of pyorrhea except those in which there are extensive inroads in the alveolar process and peridental membrane. It is the author's theory that the presence of pyorrhea indicates a general lower resistance and that the calcuim and phosphorus metabolism can be improved by body radiation. In addition, after the teeth have been scaled and polished, the quartz rod should be applied directly at six points, not more than five teeth being treated at one time. In the technic advocated by Sampson, a two or three minute application is given at each point even to the point of blistering. The author advocates the use of graduated exposure time, beginning at one-half minute and increasing the time one-half minute at each treatment. The resistance is gradually built up in the mucous membrane and massive doses can be given without discomfort to the patient. In alveolar abscess, the ultra-violet ray is, in the author's experience of greater value than any drug. He uses it in palliation after removing the cause of the condition by drainage and sterilization. The quartz rod is applied for from one-half to one minute. One or two treatments serve to reduce the swelling and the treatments are continued for several weeks after the canals have been filled. In orthodontia, the treatment is preventive, general irradiation of the body being advocated to improve metabolism. The author believes that the ultra-violet ray is as valuable in dentistry as in medicine.

—*Copy.*

93—Haber, Gustav: **Erprobte neue Wege und praktische Winke zur Paradentosen-behandlung,** in: Z. Rdschau xxxviii (1): 413-418; 457-462. 1929.

This article is chiefly concerned with measurements of the masticatory pressure with instrument devised by the author. His experiments and results entitle him to explain that the therapy of paradentosis up to now has consisted chiefly of radical surgical intervention or of support to the alveolar bone without preliminary investigation of masticatory pressure by tests made before treatment is begun; this method is as far out of the way and incorrect as the "support of loosened incisors when their masticatory pressure is greater than that of the molars."

Alveolar pyorrhea and in fact all paradentoses, so far as they are not filth diseases, are based on the *relation between the upward pressure* of the teeth and the *resistance* of the paradentium.

"The complete elimination of alveolar pyorrhea without reference to the articulation problem, whether the cause is constitutional or lies in the occlusion, or in gingival disease, is impracticable. The successful outcome of treatment is assured only when, in the first place, parodontal disturbances like loosening of the teeth, affections of the bony socket and of the gingivae, are removed by special restorations of imperfectly occluding surfaces, and by the correction of unfavorable articular relations."

Transl.—H. A. R.

94—Haley, Philip S., Ph. C., D. D. S.: **An efficient therapeutic method for the treatment of periodontoclasia,** in: D. Cosmos lxxi: 1211-1213. Dec., 1929.

Author packs in from the bottom of the pocket up, several germicides alternately, viz: a chlorine solution, a CuSO4 solution and a glycerin solution of sulpharsphenamin. The cure is aided by the mechanical dilatations of the pockets.

—H. A. R.

95—Hanke, Milton T., M. D.: **Diet in relation to dental disease,** in: Abs. Amer. Jour. Physiology xc: 376-377. 1929.

Blood examinations for Ca and P and a dietary analysis have been completed on 200 cases, afflicted with every type of dental disorder. Ages of these patients ranged from 4 to 60 years.

The diets were usually, not markedly deficient in Vitamin D., only some 40% of the diets *were* markedly deficient *only in Vitamin* C. It is possible, by means of a diet containing an abundance of Vitamin C to produce solid gum tissue, to arrest caries and, with the addition of prophylactic measures, to cure pyorrhea and induce bone regeneration in the alveolar tissue. The Ca and P content of the blood varies with the age of the individual. Caries and bone absorption may be progressing rapidly in a person whose blood contains normal amounts of Ca and P.

These processes have been stopped by diet, without changing the blood values significance.

—Copy.

96—Hartzell, Thos. B., M. D., D. M. D.: **Interesting cases of periodontoclasia before and after treatment,** in: J. Am. Dent. A. xvi (7): 1307-08. July, 1929.

The author gives three case histories of patients suffering from

1. Weariness, low blood count and hemorrhage.

2. Weariness, low blood count—polymorphonuclears 81%; lymphocytes 14%

3. Torticollis, low blood count and hemorrhage.

	Before Treatment			
	Hgb.	Reds	Whites	
1.	65	3,000,000	4600	
2.	65	3,000,000	4500	
3.	75	3,200,000		
	After Treatment			
	Hgb.	Reds	Whites	
1.	87	4,500,000	7800	4 mos. treatment
2.	85	4,200,000	8500	3 mos. treatment
3.	84	4,500,000		6 mos. later, after extraction and conservative treatment.

No. 1 had removal of calculus and cleaning out of pockets.

The author shows the large area of ulcerating infected surface that may exist from which the tissues themselves, lymphatics, veins and blood stream, can be and are invaded.

All cases recovered promptly under periodontic treatment.

—H. J. L.

97—Hartzell, Thomas B., M. D., D. M. D.: **The practical things every dentist should know regarding the treatment of periodontoclasia,** in: J. Am. Dent. A. xvi: 1466. Aug. 1929.

Periodontoclasia "is a more nearly universal ailment than any other with which the healing art is concerned. It is even more common than dental caries." Bacteria, notably the streptococcus and staphylococcus are given as the principle cause and the statement made that the problem of preventing and curing it depends upon keeping those surfaces of the teeth in contact with the gingivae free from bacterial accumulations. While approving the importance of diet in the treatment of this disease Hartzell asserts the he has never seen "a case of active pyorrhea cured by diet alone." It is his belief that "it is entirely possible to bring about a complete healing of pyorrheal lesions around teeth if one can gain the coöperation of his patient in securing moderate freedom from bacterial growth by friction on the sides of the teeth adjacent to the gums, associated with a vigorous twice daily stimulation of the gums by friction

and pressure." In instances it is also necessary by some means to reduce the depth of the pocket sufficiently to permit of the growth of epithelium to the bottom of the pocket. This may be accomplished by one of three different ways: first, by friction and physical exercise of the gums; second, by the use of cauterizing drugs; and third, by cutting away the pocket as is done in gum resection.

The use of sodium ricinoleate, one percent, is recommended in the treatment of these cases, also in a tooth paste.

Regarding the use of the different light modalities such as the ultra-violet ray for example, he states that in his hands they have proved to be of "comparatively little value."

Hartzell concludes that "because of the extraordinary rapid growth of pyogenic micro-organisms on the sides of teeth, it is absolutely essential to combat the growth from day to day by rubbing off these accumulating bacteria, attempting to get the teeth as nearly free from bacteria as is possible, and at the same time delivering enough friction and pressure on the gums to empty them of congested fluid and insure a vigorous normal circulation of healthy red blood through the gums."

The article is well written and worthy of careful study by every dentist. It outlines briefly the essential factors in the etiology and treatment of periodontoclasia.

—*A. H. M.*

98—Hlavac, Charles W., D. D. S.: **Simplified procedure in actinotherapy in stomatologic practice,** in: Amer. Dental Surgeon, xlix: 180. April, 1929.

The author uses the term "actinic" in preference to "ultra-violet" because the former has a broader meaning as applied to light and also because of the confusion resulting from the use of the term "Violet Ray Machines" and the absurd claims made for these machines which have practically no therapeutic value.

The source of actinic ray is metal brought to vivid incandescence. The practical application of actinic ray in dental practice can no longer be overlooked. He reports, after one year of constant use of actinotherapy, that in the general routine of office practice it is indispensable and as time goes on, the field will become unlimited.

Ultra-violet radiation in the stomatological region or oral cavity is possible by means of applicators of pure quartz.

It is difficult to definitely establish the cause for the distinctly favorable reaction noted in post-operative treatment of extractions with actinic ray, yet when we know that the action of the actinic ray is both bactericidal and stimulative, the explanation may be offered that actinic rays have materially aided in post-operative care.

The author reports very favorable results in the use of actinic ray in the treatment of Vincent's infection. Once an area has been exposed to actinic ray with proper technique, the condition may safely be said to never recur.

—*D. F. M.*

99—Humphreys, Humphrey, O. B. E., M. C., M. B.: **Pyorrhea alveolaris,** in: Brit. Med. J. p 99. Jan. 1929.

The author follows the researches of Warwick James and Counsell as to pathology. He traces the predisposing causes back to the essentially transient and temporary character of the teeth and their supporting structures; among the exciting causes he puts 1. Modern diet; 2. Malocclusion; 3. Dental restorations.

The most important treatment is the surgical: first scaling, then resection down to the floor of the pockets.

The medical treatment features three methods: 1. Daily irrigations or finely pulverized spray; 2. Daily cleansing of the interdental spaces with hydrogen peroxide, and 3. Saline massage. By the massage the stagnant gingival areas are sluiced out by their own serum.

As to systemic infection he regards the direction of the attention to non-vital pulps as most important; considering the *open* infection of pyorrhea alv. as exposed to all the defensive mechanisms of the body—phagocytes, antibodies, antitoxins, etc., while the *closed* infected pulp chamber constitutes a safely protected stronghold for bacterial growth.

—*H. A. R.*

100—James, Austin F., D. D. S.: **Factors in periodontal treatment,** in: J. Am. Dent. A. xvi: 1607-1609. Sept., 1929.

In the opinion of the author pyorrhea is truly a local infection, occurring more readily when the local tissue cell resistance is lowered by faulty diet, faulty metabolism or disease.

Pocket depth and looseness of teeth interest him very little, until the amount of absorption of the alveolar process has been estimated. The greatest etiologic factor among civilized men is the lack of function. The author advocates the process of grinding for the relief of occlusal trauma.

—*H. A. R.*

101—Kaiser, Frank S., D. D. S.: **The surgical treatment of pyorrhea alveolaris,** in: J. Am. Dent. A. xvi (7): 1299-1304. July, 1929.

Good pictures of resection technique are given. The author shows also the use of "wondrpak."

—*H. J. L.*

102—Kieffer, Dr. Josef (Strasbourg): **L'héliothérapie appliquée en art dentaire,** in: Revue Odontologique 50 (1-2): 49-61, Jan.-Feb., 1929.

By the use of the thermic rays, hyperemia, pronounced and of long duration, will permit us to relieve the patient immediately in all cases of periodontitis and periostitis. That is to say, in those unfortunates for whom the only relief up to the present has been a sedative powder, etc., entirely without effect on the lesion itself.

The explanation of the cessation of pain is not difficult for one who is familiar with the histo-pathologic details of inflammation. Certain groups of rays, having an enormous effect on the circulation and even directly upon the leucocytes, produce against the infiltration what we might call a *"lavage"* of tissues stuffed with pathological exudates and their débris.

In case of severe periodontitis we observe according to the nature of the case two different forms of resolution that may be qualified as regressive or progressive in a favorable sense. After one or two irradiations we note either complete disappearance of all inflammation, and the patient will declare that all pain has ceased at once after the first treatment; or, we note, from the second sitting, a painless softening in the centre of the inflamed area, which signifies that the radiation has certainly hastened the resolution of the diseased state.

—*H. A. R.*

103—Kionka, Prof. Dr. H., (Univ. Jena.): **Die pharmakologischen Grundlagen der Jodtherapie,** in: Paradentium I (3): 81-86. Z. Rdschau xxxviii (2): 1929.

As the newest extended field for iodine treatment, the paradentoses must be pointed out. Care must be taken to avoid iodine accidents to the mucous membrane here. The action of iodine in this disease may lie in an influence upon the processes of secretion and excretion or in the ordinary action on the vegetative nervous system.

—*H. A. R.*

104—Klein, Dr. Walter, (Vienna): **Einige Mitteilungen ueber die Anwendung des Diathermiestromes in der Zahnheilkunde.** (See p. 452 et seq. for use of diathermy in periodontal disease.) Ztschr. f. Stomat. xxvii: 443-58. 1929.

In the course of dental practice it often becomes necessary to remove portions of gingival tissue which are in the way. In pyorrhea alveolaris also, after the method of Gottlieb, the gum adjacent to abnormally deep pockets is removed. If, before removal, the respective portions are cauterized, annoying hemorrhage is avoided, the resection succeeds without further trouble. Dull instruments suffice for separation from healthy tissues.

The area of cicatrization is mostly of small dimensions and on this account the cold cautery offers great advantage. For, according to Kowarschik, point and line coagulations may be made of a penetrable fineness, impossible to accomplish with the hot point.

—*H. J. L.*

105—Lawrey, A.: **Local treatment of pyorrhea alveolaris—suggested appliance,** in: Brit. D. Jour. 1: 359. April, 1929. Abs. Cosmos, lxxi: 833. Aug., 1929.

Lawrey has devised a vulcanite appliance which, while retaining a suitable paste in contact with the diseased tissues at the same time provides rest and excludes saliva with its bacteria. Impressions are taken. After cooling, the tags of composition representing the interdental spaces are trimmed flush and a shallow groove is burred around the teeth at their necks. After pouring and separating the cast, wax trial plates are made, completely covering the teeth and extending for about 0.25 inch below the gum margins on both the external and internal aspects of the alveolar processes. The plates are tried in separately,

the wax covering the crowns of the molar and premolars is softened and the patient is instructed to bite into but not through the layer. In waxing up prior to flasking, the edges of the plate are thickened to form a rim. When packing, soft dark-red rubber is used for the rim and ordinary red for the remainder. After vulcanization and polishing it is ready for use. These appliances are intended to be worn at night or for shorter periods.

To prevent the packing and lodgement of food in the pockets and interdental spaces during meals, Lawrey suggests a modification. The impressions are not trimmed in any way. The crowns of the teeth are not covered by vulcanite but are left exposed as low as the enamel-cemental junction. This appliance is intended to replace the resorbed alveolar process and interdental papillae. Where all the teeth are present the appliance is kept in place in close approximation to their necks by passing connecting pieces of thin gold wire buccolingually over the teeth in such positions as the bite will allow. Where teeth are missing the spaces may be filled with vulcanite or even artificial teeth may be mounted.

These appliances probably could be made in metal. They could also be used in the treatment of erosion, exposed cementum, cervical caries, ulcerative gingivitis, etc. Lawrey suggests as a suitable paste zinc ointment, such as is used for ulcerations on the body surface.

—*Copy.*

106—Mamlok, Prof. Dr. Hans Jacques, (Berlin): **Ist Alveolarpyorrhoe heilbar?** Is pyorrhea curable? in: Therapie der Gegenwart lxx: 498-501. Nov., 1929.

Weski prefers to call alveolar pyorrhea "paradentosis"; Elander calls it "pyorrhose." The latter term is preferred by the present author.

The most fruitful writer on this subject is without doubt Gottlieb. His fundamental histological work has cleared up the subject of the pocket.

"No suppuration without pockets; therefore, remove the pockets," he says. "Loosening can only be counteracted by fixation; a fixation of unobjectionable technique and hygiene can never be begun too early."

Mechanical cleaning espoused by Sachs, Elander, Younger, Mamlok, Senn, etc.

Surgical treatment, advocated by Neumann, Münzesheimer, etc.

Mechanical support advised by Rhein, Mamlok, etc.

Massage, supported by Neumann, Mamlok and others.

Elander uses the following as treatment:

Chininum hydrochloricum	3.0
Antipyrin	2.0
Aquae dest.	6.0

Only since learning of the Dunlop method of treatment has the author been able to answer his own question in the affirmative. He uses Elander's treatment in conjunction with that of Dunlop with favorable results.

107—Marco, B. Barrymore, D. D. S.: **Ultra-violet rays in the treatment of pyorrhea and other mouth lesions,** in: Dent. Digest. xxxv (12): 785-788. Dec., 1929.

Before applying the ultra-violet ray treatment it is necessary to put the mouth in good condition. The teeth should be thoroughly cleaned, ragged fillings and fillings impinging on the gums should be corrected; ill-fitting crowns and bridges removed. The mouth should then be sprayed with a solution of sodium perborate—(one teaspoonful in a glass of warm water), and the necks of the teeth wiped with dry swabs of cotton.

The first treatment consists of eight minutes exposure of the ray. The following day check up the reaction which should show a first degree erythema—if not, repeat the treatment for ten minutes. The treatment is followed up every three days, increasing it until twenty minutes is reached and that exposure is maintained until the case is cured. At the first sitting expose only the upper and lower six anterior teeth, then the posteriors on each side. When the gums can stand it give a full mouth exposure.

To understand the three degrees of erythema—the first, about four hours after treatment a mild blush appears, disappearing in about the same time after the maximum has been reached. This is best for use in dentistry.

Second degree—A reddening of the tissues nearing a blister and used in local infections of localized area. It appears about four hours after treatment, reaching the maximum in about twenty-four hours, then disappears having some tanning which lasts but a few hours.

Third degree—A blister which should be little used. It is very painful. This reaction

clears up in from five to seven days. Some people are more susceptible than others—blondes more so than brunettes.

Ultra-violet radiation is successfully employed in gingivitis, septic and dry pockets, post-operative pain following extraction and inflammation about unerupted teeth.

—*J. C. S.*

108—McDermott, John Lawler (Sydney, Austr.): **History, theory and practice of ultra-violet irradiation and its dental applications,** in: Dent. Sci. Jour. of Austr. Repr. in Pac. Dent. Gaz. xxxvii (12): Dec., 1929.

After a discussion of the solar spectrum, its discovery, character of rays, etc., from Aristotle to Finsen, author sums up the value of irradiation as follows:—

1. A decidely germicidal action is produced
2. Cellular activity is prompted as well as metabolism and phagocytosis
3. Use of cytocidal chemicals is largely eliminated
4. Analgesic effects on terminal nerve fibres

After exhaustive discussion of varying forms of treatment, author proceeds: In the treatment of advanced periodontoclasia and elsewhere where the regeneration of bone is the desired effect, both general and local irradiation is indicated. General irradiation is given by air-cooled type of quartz Hg vapor lamps, whose actinic rays are more tonic than bactericidal and penetrate more deeply than the water-cooled type.

Author describes his own technique as follows. The teeth are thoroughly scaled and cleaned, all mal-occlusions corrected, and a 1% solution of mercurochrome is applied to the gums. Capillarity will draw the medicament to the depths of each "pocket." Use a short crystal rod as an applicator. In his own practice the author uses a Kromayer lamp.

The tissues are now dehematized by firm compression of rod. 3 to 4 teeth are treated at each sitting, beginning with an exposure of about thirty seconds on both lingual and labial gum surfaces. The length of exposure is increased 10 to 15 sec. at each subsequent sitting. He notes the importance of protecting the lips with vaseline since they are hypersensitive to actinic rays and a nasty blister is quite readily produced. The patient should be seen every 2 to 3 days. In pyorrhea alveolaris, with a free flow of pus, there will be gradual diminution of both pain and pus. The gums take on a healthy hue and marked tightening of the gingival muscles takes place around the teeth. Duration of treatment 5 or 6 weeks. X-rays after treatment should show an actual growth of new bone between and around the roots. The author has often failed to bring about this result by local irradiation alone; and these are the cases, par excellence, in which general body irradiation is needed as a priming-up of the metabolism of the entire system. After an enthusiastic description of methods of treatment in other dental conditions the author predicts the opening of a new era in dental therapeutics.

—*H. A. R.*

109—McNulty, Thomas P., D. D. S.: **Treatment of tissues supporting the teeth,** in: D. Digest. xxxv (6): 365-369. June, 1929.

The author describes his own method of treating Vincent's infection which he distinguishes from true pyorrhea almost at a glance; "of course it is wise to have a smear taken and a reading made, even though you know beforehand just what you are handling." If the two types of cases are not thus readily distinguished, "they can all be treated locally"; and if the treatment is skillful the cases of true pyorrhea will get well and stay well; the improvement in the other type of case is simply transient. "If you know of no other way to differentiate these two types, treat them all locally and the truth is revealed thereby." The author describes his own mode of treatment which requires about ten sittings, and thinks that this type (Vincent's infection) of disorder must be recognized by the dentist, because by the time it reaches the hands of a physician, it may be too late to save even life itself.

—*H. A. R.*

110—Murphy, J. F. X.: **Actinotherapy in dentistry.** (Notes on periodontal disease, pp. 697-698), in: International J. Ortho., xv: 694-705. July, 1929.

It is in the resistant case that ultra-violet radiation is found most useful. Etiologic factors must be removed, the prognosis must be established; if too vast an amount of bone and tissue destruction has occurred, such cases respond to no treatment.

Ultra-violet treatment of pyorrhea with the Kromayer lamp is a radical treatment.

Irradiation must be given under pressure and a third degree erythema must be produced.

Cases of acute and chronic Vincent's are described; results with this form of treatment good.

111—Parreidt, R., (Leipzig): **Behandlung der Paradentose durch Diät (nach Gerson),** in: Zeitschr. für Stomatol. xxvii: 969-972. 1929.

After a review of the theories on the etiology and occurrence of pyorrhea and the paradentoses from Hippocrates to the present, the author quotes and discusses the treatment of tuberculosis by diet after Dr. Max Gerson (See Medizinische Welt III no. 37). At the close of Gerson's article the paradentoses are dismissed in a brief paragraph; therefore this author wishes to call attention to this dietary treatment from the dental standpoint in order that a decision may be reached as to whether the paradentoses are thereby favorably influenced or not.

(The Gerson diet is an almost wholly vegetable and cereal diet, salt-free. Its benefits in tuberculosis at first widely accepted, are now questioned.)

112—Rowlett, A. E., L. D. S., (London): **Light therapy in dentistry,** in: D. Surgeon xxiv: 1196. 541-545. 1929.

Therapeutic measures may be divided into three classes, viz:

(1) Prophylactic

(2) Curative

(3) For maintenance of health when disease has been cured

Deprecating extravagant claims for light therapy, one must not forget it is almost an elemental force, and must give it its proper place among the other natural sources of health, i. e., diet, fresh air and exercise. It is a valuable therapeutic ally in treatment of gingivitis, pyorrhea, delayed healing of sockets, trismus, due to extraction of impacted teeth, neuralgia, general sensitiveness of teeth and gums, trench mouth and pain of all kinds except that caused by pulpitis.

Discussion of different apparatus available and methods of using same follows. These include Tungsten and carbon arc lamps. Several cases are cited.

—*C. M. G.*

113—Rumpel, C.: **Kritische Gedanken über die moderne Paradentose-behandlung,** in: Z. Rdsch. xxxviii (1): 1-6, 1929. Abs. D. M. f. Z. xlviii (2): 132. Jan., 1930.

There are two classes of factors involved in paradentoses, viz., exogenous and endogenous; the more the latter predominate the less favorable the prognosis and until they are cleared up the results of treatment will be symptomatic only.

—*Ed.*

114—Sachs, Prof. Dr. Hans: **Younger-Sachs-Methode in der Hand des Praktikers.** The Younger-Sachs method (of paradentosis treatment) in the hands of the practitioner, in: Zahnärzt. Rundschau xxxviii (1): No. 3, 93-102; (4) 141-152; No. 5, 179-182. 1929.

In this short course of lectures the author describes the method of Younger as modified by himself the effects of which he has observed in countless cases. For this reason he again insists on the importance of always seeing how far we can go by curettage instead of resection.

The method of curettage is indicated (1) where paradental or "schmütz—" pyorrhea (Gottlieb) is present; (2) where there is a furrow along any extent of the alveolar bone; (3) where obvious predisposition, or serious constitutional disturbances are present; for psychological reasons; in wandering of the teeth. It is contraindicated (1) where deep intra-alveolar bone pockets exist; (2) where there is obstinate suppuration; (3) where the contour of the teeth is irregular; (4) in many clinical and insurance cases where a cheaper and quicker method may be used; (5) where neither tartar nor pus nor inflammation is present but only a progressive loosening of the teeth.

The first precaution is that the mildest possible method should be used; the second that radical surgical methods be used only on individual or groups of teeth.

In the use of curettage the first care is to remove all accumulations of tartar especially serumal; the second care is to remove all pocket contents.

The coöperation of the patient must be assured as in all other forms of treatment and the author emphasizes home care, brushing, massage with tooth brush if it can be borne otherwise with a cotton wrapped finger.

115—Soresi, A. L., M. D.: **Painless rapid cure of peridental abscess,** in: D. Items of Int. li: 935-6. Dec., 1929.

By "peridental abscess" the author refers to any abscess occurring in the mouth whether periapical or parietal and by "rapid cure" reference is made to a painless method of lancing. This consists in taking a small sharp pointed lance and having dipped it in pure phenol, a small incision is made with the carbolized point over the area where fluctuation is most manifest. The point is then moved gently back and forth, allowing the phenol on the blade to act as an anesthetic as the lance is slowly forced deeper into the tissues till the pus is reached. If there is any excess of phenol on the surface of the abscess it should be neutralized with alcohol. The pus should not be squeezed out, nor should any drain be inserted in the wound. The incision made with the carbolized lance will be all that is necessary for complete, painless and rapid clearing up of the abscess. The advantages claimed for this method of lancing is no pain in the operation or subsequently, and that only a small incision is necessary.

The reviewer has used this method of lancing abscesses and found it to be all that is claimed for it. There is no pain in the operation, provided the blade is not forced into the tissues too rapidly. Moreover, the cauterized lips of the incision prevents immediate healing and makes the insertion of drainage unnecessary.

—*A. H. M.*

116—Sorrin, S., D. D. S.: **Bone changes induced by periodontic treatment,** in: J. D. Research, ix: 359. June, 1929. Abs. Brit. D. J., L: 1094. Sept., 1929.

Author gives details of case of severe gingivitis in which the teeth were loose and showed pus pockets. Traumatic occlusion was present and the saliva was slightly acid. The radiographic examination showed marked alveolar absorption round all the teeth; this was extreme on the lower anterior teeth. Treatment consisted in cleaning the teeth and balancing the occlusion; later, scaling, and the use of sodium sulphide to remove the epithelium in the pockets. After three months there was a return to healthy conditions; suppuration ceased, teeth became firm, pockets cleared up and bone regeneration had taken place. Radiograms show a filling in of healthy bone. Author considers good result largely due to balancing the occlusion.

—*Copy.*

117—Strauss, Dr. H., (Berlin): **Klimatologische und balneologische Beeinflussung von Stoffwechselstörungen mit besonderer Berücksichtigung der Paradentose,** in: Paradentium I (2) 55-58; Z. Rdsch. xxxviii (2). 1929.

That this theme should be presented at a dental meeting proves that the close relation between metabolic disturbance and dental disease is recognized from the dental standpoint. It is already long since disturbances of metabolism have been held responsible for paradentoses, diabetes especially. In his student days the author already learned from the clinicians that many a diabetic case was first diagnosed by his dentist.

—*H. A. R.*

118—Taylor, Bruce L., D. D. S.: **How the general practitioner may prevent and cure pyorrhea,** in: D. Cosmos lxxi: 954-959. Oct. 1929.

In order to prevent and cure pyorrhea it is necessary to study those structures which support and invest the teeth. These are the gingivae, pericemental membrane and alveolar process. Classifications of these tissues are described. The author believes that inflammation causes pyorrhea and if we can prevent this we can prevent pyorrhea. There are many causes of inflammation of the gums, chief among them the presence of micro-organisms, trauma, and diet deficiences. It is claimed that the abnormal eruption of the third molars is a very common cause of pyorrhea because it crowds the other teeth and as a result contact points slip. This slipping of the contact points unbalances the occlusion and the peridental membrane supporting the teeth is subjected to an excessive pressure thereby becoming inflammed. Another great cause is the neglect to replace teeth as soon as the gums have healed after extraction. Important in the prevention of pyorrhea is proper instrumentation and the balancing of occlusion. He stresses the importance of the balance of occlusion as fundamental in the treatment of periodontal disease. The Charter's method of toothbrush stimulation is advocated. Drugs have no place in the treatment of periodontal disease.

—*S. S.*

119—Tishler, Benjamin, D. M. D.: **Instrumentation technique in periodontia,** in: D. Items of Int. li: 30-39. Jan., 1929.

From the standpoint of pathology, the bac-

terial plaque is a factor in every case of periodontoclasia. If, after treatment, the teeth are properly brushed, the gingivae also massaged, the diseased condition will not return. This is due to the fact that the contents of the plaque infects and inflames the marginal gingivae. Because of this lowered tone, calcium escapes from the blood and upon coming in contact with carbon dioxide is encrusted upon the root surface. The plaque and calculus cause disintegration of the gingival fibres and a pocket develops. After the gingival and tooth attachment is destroyed and disintegration of the pericemental fibres and alveolar crest takes place, the tooth is eventually lost unless checked by treatment. In the treatment of periodontoclasia the hoe and curette are to be preferred. The blade is carried to the extreme depth of the pocket in such a way that the cutting edge rests squarely on the root surface. Then, with a wrist movement the instrument is drawn to the margin of the gingiva, using firm pressure, and this is continued until the root feels smooth. The purpose of the curette is to smooth and polish the cementum.

First, the stroke must be parallel to the root surface; second, the blade must be sharp; third, avoid overcurettage. The number of instruments sufficient to reach every part of the various roots should not necessarily exceed fifty.

In instances where the flow of pus persists, a longitudinal incision from the margin to the extreme depth of the pocket is made with a sharp lance. Infiltration anesthesia is used and curettage completed without the necessity of suture. However, it is well to apply a solution of beechwood creosote and iodine followed, while still wet, with glycerite of tannin. Ordinarly, 2% butyn may be dropped into the pocket previous to curettage.

Permanent results, after proper treatment, depend entirely upon the coöperation of the patient.

—*C. J. C.*

120—Torger, (Dresden): **Können wir von dem jetzigen Stand der Paradentoseforschung und Behandlung Heilung erwarten?** Observations and thoughts of a practitioner, in: Z. Rdschau, xxxviii (2): 1167-70. 1929

In the article the author alters his rhetorical question to read: "Can we accomplish the cure of paradentosis through local treatment?" Scientific research has proved that we have to deal not with local infectious disease, but with symtomatic manifestations of general disturbances of the entire organism. The oral cavity is the mirror not only of the stomach but of the whole internal body. The author criticizes pulp extirpation and believes that no definitive cure can be accomplished by radical surgery. He describes a marked case with his own technique.

121—Weinmann, Dr. Josef: **Ueber die permucöse Einverleibung des Sauerstoffs.** On the submucous insufflation of oxygen, in: Paradentium i (2): 65-71. Z. Rdsch., xxxviii (2): 1929.

This is a report on the Dunlop treatment and seeks to make clear its biologic principles. The writer apparently digresses somewhat to tell what he has learned of "*Gingivitis gravidarum* in several months spent at the Frauenklinik of Prof. Kermauner in Vienna.

The Dunlop insufflation method reaches the endangered metabolic processes of the cell itself. By the superfluity of fluid (acid) introduced, the cell activity which has reached a dead level is started afresh. The albuminous content is once more completely oxidized and substances are formed as products of metabolism which hinder the further deposition of calcium in the hard tissues, i. e., (after Freudenberg and György) amino-acids, amines, carbonic acid and others which in normally breathing tissues inhibit chalk deposit. Thereby along with the lessened calcium deposition and the processes bound up with it which on the one hand result in cement and bone resorption, on the other in down growth of epithelium, are partly repaired and partly inhibited.

—*H. A. R.*

122—Withycombe, R. Morse: **When is extraction indicated in alveolar pyorrhea?** in: Dent. Sci. J. (Austral.) no. 2: Feb., 1929. Transl. Abs. Z. f. Stom. xxvii: 1066. 1929.

The author gives a new equation:

$$Py = \frac{PLOS}{R} \text{ Pyorrhea} = \frac{\text{Perverted Lateral Occlusion Stress}}{\text{Resistance}}$$

On this basis the author tries to regulate the lateral stress and to avoid extraction in alveolar pyorrhea until the very last stages instead of at the beginning, as is too often the case, especially in Australia.

—*H. A. R.*

123—Wollenburger: **Value of ultra-violet radiation in dentistry,** in: Arch. Phys. Ther. X-Ray Rad. July, 1929. Abs. J. Am. Dent. A., xvi (9): 1773. Sept. 1929.

In pyorrhea the teeth should be thoroughly scraped and polished 24 hours before irradiation. A digestive ferment, caroid, is used to clean the area to be treated immediately before the quartz rod is applied. This removes tenacious mucin and any foreign material which might prevent absorption of the rays. The applicators should be the clearest obtainable as the transmission value of those containing bubbles is greatly lessened . . . In pyorrhea cases early or moderately advanced, the results have been good, the gums becoming harder and assuming the normal pinkness of health, and the teeth becoming firm in their sockets. The greatest field of usefulness covers the large group of subacute and chronic gingival cases and affections of the gums that are forerunners of pyorrhea."

The use of water-cooled Hg quartz burner in oral conditions is especially discussed.

Corrections for Bibliography and References of Periodontal Literature Which Appeared in January, 1931 Issue

We are indebted to Dr. B. W. Weinberger of New York City for the following additions and corrections: "The date 1687, Charles Allen is correct for the 3rd edition, but the ones of 1685 and 1686 should be included with it. John Hunter, 1771—1st edition. One of the most important, the series of "Artzney Buchlein" of the "Zene Artznei" which was the beginning of dental literature and published as an Oral Hygiene movement to enlighten the public as to the care of the teeth does not appear. The dates are 1530-1532-1536-1541-1543-1546-1549-1559-1563-1565-1576. Information regarding this may be found in the Journal of Dental Research, Vol. 4, No. 4, December, 1924-26, pp. 313-333.

The first work in this country was written for the public by Richard Skinner 1801.

On *page 25, 1805,* Garlot should be *"Gariot."*

Dr. Weinberger's invaluable contribution, "Orthodontics: An Historical Review of Its Origin and Evolution" contains many references to periodontal literature and should be added to the list of References. This was published in 1926.

(g)—Home Care and Prophylaxis

1927

1—Asgis, Alfred J., Sc. B., M. D., D. D. S.: **Gum and tooth revitalization,** in: American Dental Surgery, xlvii: 590-610. Oct., 1927.

It is misleading to think of mouth hygiene in its narrow sense of tooth-brushing. The status of the toothbrush, its supposed function, the principle of gum and tooth revitalization are dealt with summarily. Substitutes available are enumerated.

The advantages of the toothbrush "in tooth cleaning" do not compare with the disadvantages in "gum infecting."

This article is an exhaustive treatise, is abundantly illustrated and includes an extensive bibliography.

—*Ed.*

2—Donovan, F. D.: Lancet (London). July 23, 1927. Abs. D. Cosmos, lxix: 1204. Nov., 1927.

The author emphasizes that pyorrhea alveolaris is in no way actively caused by the dirty brush but that the ground is so prepared by this constant irritation that the membranes fall an easy prey to the disease should other predisposing conditions arise. Whatever should be the activating cause, these filthy brushes are at the root of 90 per cent of the cases and the prevention is in the patient's own hands. The few cases which occur independently of brush irritation could all the more certainly be dealt with.

3—Feirer, William A. and Veader Leonard.: **Antisepsis in hygiene of the teeth and gums,** in: J. Am. Dent. A., xiv: 1049-1065. June, 1927.

This is an excellent study. The authors show that hexylresorcinol in 16% solution, with 1% of acid sodium carbonate, in an aqueous solution of paste containing gelatin, glycerine and chalk, destroys all pathogenic organisms in fifteen seconds.

The bacterial count was reduced on an average of 70% in the washings from the mouth. This reduction persists for several hours. They consider hexylresorcinol the most ideal oral antiseptic. —*H. J. L.*

4—Kelly, J. L.: **Relation of home prophylaxis to prevention and cure of pyorrhea alveolaris,** in: Int'l Jour. Med. & Surg., xl: 126-130. Mar.; 218-222. May, 1927.

Systemic conditions are not inciters of pyorrhea, but susceptibility of the oral tissues to infection may be increased by physiological disorders. Grave systemic disturbances may be traced to pyorrhea.

In treatment, success cannot be expected without securing the coöperation of the patient. Most cases of pyorrhea in its early stages may be handled by the patient after scaling by dentist.

The treatment consists therefore of (1) scaling by dentist; (2) polishing by patient; (3) massage by patient; (4) scraping the tongue.

Several cases are described in one of which the patient was being treated for a series of systemic disturbances which the author believed were seriously complicated by the oral conditions; and in his opinion the cure was due not to the correction of the systemic disturbance, but to the cleansing of the oral cavity.

—*H. A. R.*

5—Pritchard, George B., *Art.:* **Treatment of pyorrhea. (Portion abstracted, "Artificial cleaning.")** in: Lancet (London). Jan. 8, 1927. Abs. D. Cosmos, lxix: 439. Apr., 1927.

The technique for the patient is simple but it must be carried out with the greatest thoroughness. A small toothbrush—soft at first, later medium hard but never very hard—with discrete tufts of bristles set in serrated rows, is used to carry the paste as far as possible on all surfaces of the teeth; then a piece of dental floss or three-ply worsted is taken and passed through the interdental spaces to clean them with the paste and remove all foreign matter. This done, the teeth are finally vigorously brushed. Twice a day, before retiring and after breakfast is usually sufficient,

but after every meal is ideal. A mouthwash before breakfast is usually sufficient. It is of little use to employ an elaborate toilet immediately before a meal. An ideal mouthwash that can be used indefinitely is one containing carbolic acid 1%, and chlorate of potash 5-10 gr. to the fluid ounce. It is also advantageous to massage the gum gently with a soft brush wet with weak salt solution. The paste or powder should consist of precipitated chalk containing 10-40 gr. to the ounce of powdered soap and chlorate of potash. Recipes are then given for powder and mouthwash.

—Copy.

1928

6—A. A. P.: **Home care of the mouth,** in: J. Am. Dent. A., xv: 1366. July, 1928.

This is Bulletin No. 7 compiled by the American Academy of Periodontology for the information and instruction of the public. Its purpose as outlined in the opening paragraph is to instruct the patient how he can by personal care aid in protecting the teeth against decay, promote the health of the periodontal tissues and provide a clean environment for the mastication of food. Attention is called to the importance of preserving the supporting tissues of the teeth in health, the massage of the gums, and suggestions regarding diet, etc.

The results to be obtained by intelligent personal care of the mouth, the equipment that is necessary, the frequency with which teeth should be brushed, and the time required, the care of the tooth brush, etc., are all admirably set forth. This is followed by a warning against horizontal tooth brushing, the careless use of toothpicks, waxed silk, dentifrices, etc.

Four methods of tooth brushing are outlined, two for application to "normal mouths" and referred to as the "circular method" and the "modified rolling method" and two to be used in "mouths showing a tendency toward disease of the gums." The first of this latter group is the Charter's method of "immunizing" hard and soft mouth tissues to infection; and the second is Stillman's "physical culture for the gums" both of which methods are largely described in the language of their authors.

This bulletin is one that could be placed in the hands of all adult patients to advantage.

—A. H. M.

7—Adair, Robin, B. S., D. D. S., M. D.: **Oral prophylaxis as practiced—A failure or success,** in: J. Am. Dent. A., xv: 82. 1928.

This is a plea for a more general application to daily practice of the principles of oral prophylaxis, the statement being made that it "is the greatest thing in dentistry and the best thing which could be done for the patient; that its proper application requires more skill, and knowledge of conditions than any other branch, and it should for this reason, be administered by the dentist himself."

The author advocates the monthly prophylactic treatment with an average of about eight visits per year. To insure regularity, he recommends that patients be sent for at stated intervals. He agrees with the late D. D. Smith whom he quotes at some length, that the polishing of the teeth should be done with hand and not with engine driven instruments. He believes that many patients fail in their part of the oral prophylactic program because they have not been properly taught a correct technique.

On the other hand he says "just as many failures have resulted by overtraining the patient and burdening him with a technique requiring probably ten minutes for performance and too many brushes. It is certainly sane to use the simplest and quickest methods." He believes that almost any tooth brush will prove satisfactory if the patient's attention has not been diverted by trying to teach too elaborate a method. Many failures on the part of patients, he believes, are due to the teaching of complicated tooth brushing techniques.

The reviewer believes this to be true. He also believes that when the responsibility for the care of the mouth is placed on the patient where it belongs, and he is properly instructed in correct methods of tooth brushing and gum stimulation, it will not be necessary for him to make monthly visits to the dentist. It is more important that the patient keep his mouth clean by daily care than that he should neglect it twenty-nine days and then expect the dentist to keep the mouth healthy by a prophylactic treatment on the thirtieth.

—A. H. M.

8—Bricker, F. A., D. D. S.: **Prophylactodontia,** in: J. Am. Dent. A., xv: 1073-1077. June, 1928.

Prophylactodontia is defined as that branch of dentistry which specializes in preventing dental and oral disease and malformation. The author lays great stress on the education of the patient by the dentist in the principles and technic of mouth hygiene and gingival stimulation through talks and demonstrations of the use of the tooth brush in the patient's mouth at each visit.

The things taught to patients are: 1. The causes of decay. 2. The causes of periodontoclasia. 3. That decay and periodontoclasia can be prevented by proper hygiene and diet and regular visits to the dentist. 4. That periodontoclasia is not a specific or contagious germ disease. 5. That the teeth will not stay healthy without proper home care. 6. That the oral cavity is the seat of more focal infection than any other part of the body. 7. The fundamentals of diet as affecting teeth. 8. How to use the tooth brush correctly.

The Charters principle of brushing is used with instructions to brush as vigorously as possible without causing irritation. Dentifrices are used for their scouring properties and not as medicaments. One is recommended consisting of equal parts of precipitated tribasic calcium phosphate, precipitated calcium carbonate, sodium chloride and sodium bicarbonate.

—*M. M. B.*

9—Charters, W. J., D. D. S.: **Immunizing both hard and soft mouth tissues to infection by correct stimulation with the toothbrush,** in: J. Am. Dent. A., xv: 87-92. Jan., 1928.

It is Charters' opinion that more good can be accomplished by teaching patients how to keep their mouths and teeth clean than by regulating the diet to the extent that the tooth brush will not need to be used. The method of brushing as outlined by him and which he believes will do much toward immunizing the teeth and periodontal tissue against infection consists in placing the "brush at right angles to the long axis of the teeth, the points of the bristles in contact with the surfaces: then gently force the bristles between the teeth, being careful not to pierce the gums,—With the bristles between the teeth, exert as much pressure as possible, giving it several slight rotary or vibratory movements, causing the sides of the bristles to come in contact with the gum margin and producing an ideal massage." Every embrasure between the teeth should be entered by the bristles and the gingivae stimulated. This applies to the bucco-labial and lingual surfaces. The occlusal surfaces are also to be brushed using the vibratory motion. Following the brushing, the mouth should be thoroughly rinsed with warm water. The brush recommended is one that is seven-eighths of an inch in length, five-sixteenths of an inch wide, with bristles one-half inch in length. The handle should be seven and one-half inches long and rigid enough to prevent bending when in use; bone is preferred.

By following the plan of brushing outlined above, it is Charters' belief that it is possible to correct the sensitive areas that sometimes develop at the cervical margins of teeth and to so raise the resistance of the periodontal tissues as largely to prevent the development of all periodontal diseases.

—*A. H. M.*

10—Charters, W. J., D. D. S.: **Immunizing mouth tissue to infection by correct stimulation with the toothbrush,** in: J. Am. Dent. A., xv: 1592-1594. Aug., 1928.

In carrying out a program of preventive dentistry, the necessity of teaching patients, especially children, a system of home care for the gums and teeth is emphasized. The author—"Such teaching would do much to insure the general good health of our patients." A specific method of brushing the teeth is advocated and the plan for teaching it to patients is given.

This method of brushing aims particularly at the thorough cleansing of the cervical portions of the teeth, especially the surfaces adjacent to the interdental spaces, and at the same time, stimulates the gingivae. In addition to the tooth brush, an instrument made of metal or orangewood is used to stimulate the gum margin. The claim is made that this method of home care greatly reduces the number of acid-forming bacteria in the mouth and produces resistive gum tissue.

The occasional washing of the tooth brush with soap is recommended.

In the author's practice, in the examination of the mouths of fifty new patients, it was found that disease was not due to the patients' disuse of the toothbrush, but to its misuse. The blame for the astounding prevalence of infected teeth and pyorrhea among the adult patients, who have made regular visits to

their dentists year after year must be placed squarely on the dentists themselves.

—*M. M. B.*
—*W. H. S.*

11—Dickerson, Mildred, D. D. S.: **Hygiene of the mouth,** in: J. Am. Dent. A., xv (4): 657-680. Apr., 1928.

We must consider the importance of nutrition in the development of sound teeth as well as sound bodies. During the entire period of development and eruption of all teeth, the question of diet should be ever before us. The importance of minerals as tissue builders, particularly of the bones and teeth, is generally recognized. The work of Sherman on calcium, indicates that the diet of the American people is more likely to be lacking in calcium than protein. If normal metabolism is to be maintained, a well-balanced diet is necessary. Proper diet helps not only in the building of strong teeth but also in the prevention of rickets.

Physical characteristics of food bear a direct relation to caries or periodontal diseases. A soft diet promotes disease; whereas a fibrous one has a stimulating effect on the process of mastication and serves as a cleansing agent for the surfaces of all teeth. Function is the foundation of all cleanliness and should be emphasized. The subject of diet is of practical interest to the dentist and is classed under three heads: 1. Nutrition, as concerned in the building and growth of normal oral tissues as well as healthy bodies 2. Exercise of the jaws, teeth and gingivae through efficient mastication 3. The natural cleansing of the teeth in the process of mastication

Oral prophylaxis is recognized as another effective measure employed by the dentist in combating caries and periodontal disease. It consists in the thorough cleansing and polishing of the teeth and stimulation of gingival circulation. Prophylaxis should be given at regular intervals of not more than six months. Such treatments should be started early in life, soon after the completion of the primary dentition.

Periodontoclasia has been referred to as the most readily preventable of all dental diseases. This is true, and two of the principal factors involved are cleanliness of all the dental tissues and a healthy circulation in the vascular structures, as brought about through the coöperation of the dentist and the patient. Cleanliness is the watchword in the prevention of all disease. The lay public has a high regard for sanitation as it concerns the outer parts of their bodies but they have not been sufficiently impressed with the positive dangers of insanitary conditions in the mouth and the remainder of the alimentary canal.

The dentist should carefully teach a method of mouth brushing that will enable the patient to cleanse the teeth and soft tissues thoroughly and at the same time vigorously stimulate the gingival circulation. A healthy normal blood supply in the gingivae is the greatest protection against all periodontal disease. The type and size of the brush to be used is of great importance.

—*W. H. S.*

12—Ferris, Henry C., D. D. S.: **Prophylactodontia for the general practitioner,** in: D. Cosmos, lxx: 875-881. Sept., 1928.

A thesis on function, with its physiological influence over most forms of oral pathological conditions, as a prophylactic measure in preventing and overcoming oral disease.

A large percentage of children develop habits of unilateral mastication because of some disaffection in early life and continue through life with them because of the developed power on the favored side. The general practitioner should direct a systematic cultivation of the muscles and jaws of growing children. The use of an elastic device and foods requiring mastication are suggested. Several cases are reported and illustrated.

—*M. M. B.*

13—Holck, Harald G.: **"Fletcherizing,"** in: Science News Letter, Sept. 8, 1928. 143; Abs. Cosmos, lxx: 1227. 1928.

"Fletcherizing" decreases muscular endurance, typewriting accuracy and basal metabolism. It has no significant effect on blood pressure, pulse, temperature, sleeping time, mental multiplication and typewriting speed, but increases efficiency in solving chess problems.

The results of a five years' experiment on his own food consumption and human efficiency furnished H., (graduate student in physiology at the U. of C.) with material for his thesis for Ph. D. The long period included 1½ years of "Fletcherizing," 2½ years of "control" period before the "Fletcherizing" and a half-year control period afterward. According to A. J. Carlson, Prof. of

physiology at the university and an authority on the physiology of food, this experiment with its long control periods is a most valuable contribution to the subject.

During the whole period of five years, H. kept detailed record of food and water intake, material eliminated, body weight, blood pressure and pulse rate, and basal metabolism, or the rate of energy consumption. Physiological efficiency was measured by means of tests of muscular endurance, mental multiplication and typewriting tests and chess problems. Only food of known composition was used, so that calories might be accurately measured and the amount of protein, carbohydrate and fat determined.

During the control period, Mr. Holck ate whenever he desired and as much as he wanted. During "Fletcherizing" he ate only when hungry, stopped when he was satisfied and masticated his food about twice as long as normally. Calorie intake dropped from about 3,200 in the control period to about 2,800 during "Fletcherizing." His body weight fell about thirty lbs. during this period but returned to its previous average in the last control period. (cf. Benedict and Carpenter, D. Cosmos, Feb., 1920 p. 270.)

—*Copy.*

14—Lehmann: **Paradentose und Zahnbürste,** in: Z. Rdsch., xxxvii (52): 2195. 1928; xxxix: 1622. 1928.

Author believes in the dangers and defects of the toothbrush but claims that no proper substitute has yet been offered. He admits the arguments against tooth pastes but the public prefer them. A great responsibility rests on the dental profession to make scientific knowledge and practical experience correspond.

1. The dangers and harmfulness of the toothbrush must be recognized and squarely met by the profession.

2. The proper form of tooth and gum cleansing and massaging instruments must be individually prescribed by the dentist.

3. Mastication must be regarded as a help.

4. Education of the public and school children as well as instruction of individual patients.

5. An ever widening intensive work on this subject not only by each dentist but by institutions and research workers in coöperation with all lands.

—*H. A. R.*

15—Pettibone, E. L., D. D. S.: **Mouth brushing,** in: J. Am. Dent. A., xv: 1595-1596. Aug., 1928.

The author emphasizes the need of more thorough and universal teaching of tooth brushing. He does not insist upon any one method, but presents in detail one known as the "Ohio Method," which has been widely used and has qualified as a satisfactory form of oral prophylaxis. It is the method of brushing the teeth the way they grow. After years of experience in teaching tooth brushing to groups of children and adults, he has found that a demonstration of the method, depicted in motion pictures, accompanied by an explanatory talk is most effective.

M. M. B.

1929

16—Adair, Robin, B. S., M. D., D. D. S.: **What a patient should know about pyorrhea treatment,** in: J. Am. Dent. A., xvi: 182-184. Jan., 1929.

A patient should know: (1) that periodontoclasia is a new term for pyorrhea and means a breaking down of the tissues around the teeth.

(2) that a periodontist is a dentist who treats diseases that occur around the teeth.

(3) that this disease can be and is successfully treated.

(4) that the symptoms are bleeding gums, or pus exuding from the gums, or an offensive breath.

(5) that on noticing any of these symptoms a dentist or periodontist should be consulted.

(6) that the treatment should consist of the thorough scaling and polishing of all tooth surfaces and in teaching the patient an efficient system of brushing the teeth and stimulating the circulation of the gums.

(7) that the beneficial effects of such treatment are largely dependent on the coöperation of the patient in the efficient and sufficient brushing of the teeth and gums.

(8) that such diseased condition of the tissues around the teeth can be prevented by means of the proper treatment by the dentist, with the aid of proper home care by the patient.

(9) that pyorrhea may be the cause of such systemic disturbances as rheumatism,

neuritis, heart trouble, kidney lesions, and digestive disturbances.

—*M. M. B.*

17—Asgis, Alfred J., Sc. B., M. D., D. D. S.: **Masso-dent, a new instrument in stomatologic prophylaxis,** in: Am. Dent. Surg., xlviii: 502-503. Oct., 1928.

The author in calling attention to the use of gum massage in prophylaxis and in treatment of gingivitis, refers to the writings of 25 Europeans, mostly Germans. He also mentions a few Americans most of whom have contributed articles on this subject more recently. An instrument for gum massage known as "masso-dent," introduced by Dr. Krall of Berlin, is described as consisting of a nickel plated handle covered on one side with a serrated portion of rubber which ends in a round and dome like tip. Various methods of massage are mentioned. He suggests a need for research in this direction.

—*M. M. B.*

18—Asgis, Alfred J., Sc. B., M. D., D. D. S.: **Is the bristle-toothbrush a menace or an aid in stomatologic hygiene?** in: Am. Dent. Surg., xlix: 68-70. Feb., 1929.

A report of the bacteriological examination of both new and used tooth brushes revealed the presence of pathogenic bacteria. Attention is called to the apparently close relationship between the length of time a toothbrush has been in use and the number of bacteria it contains. Hot water used reduces the bacterial count. Brushes may be sterilized. Several American and British dentists are quoted on the subject. It is suggested that in all cases of general systemic or oral disease the toothbrush be discarded and some other method used. A device that would be used once only for cleaning and massaging in the mouth seems to be the logical solution.

The author—"The broad field of investigation in the domain of preventive dentistry is made more vivid but by a glance at the 'toothbrush' problem."

—*M. M. B.*

19—Bouland, Prof. A. and R. Boissier: **The toothbrush and methods of cleaning the teeth,** in: Revue dent. canadienne, xii: 317-329. Nov., 1929.

This article on the use of dentifrices, and the character and uses of the toothbrush is a most interesting one. Dentifrices in one form or another date from antiquity. A lengthy and apparently exhaustive list of substances thus used is given with recipes for the compounding of pastes, soaps, etc. Complete agreement has been reached in all countries, says the author on the necessity for the use of the toothbrush, the chief matters of concern being its form, size, and character of its bristles.

The bristles may show every degree of softness or suppleness. The rubber toothbrush is rejected by almost all dentists. The bristles are obtained from the pig, more often the boar. The principal markets are in China, Russia, Poland and the Balkans; France supplies only a small quantity owing to her cultivation of an English type of swine providing only few bristles and of inferior quality.

When imported these bristles are generally septic; they must be bleached and sterilized in baths of peroxide and potash. They consist of a stiff root and a more supple tip. The softer grade of brushes is manufactured far more to utilize the soft tips than to satisfy the demand for soft brushes. The mounting of the bristles may be carried on in factories, but is very generally entrusted to home workers.

The remainder of the article is devoted to a very lucid description of tooth brushing methods; and the sterilization and care of the brush.

—*H. A. R.*

20—Bricker, Frederick A.: **Preventive dentistry,** in: J. Am. Dent. A., xvi (2): 376-378. Feb., 1929.

The author defines preventive dentistry as prevention of mouth diseases so that we do not need to resort to extractions or restorative dentistry such as fillings, bridges, and false teeth.

The causes of decay, tartar, and pyorrhea are briefly discussed, and stress is laid upon home care in activation of the circulation in the periodontal tissues by brushing, proper hygiene, diet and regular visits to the dentist.

21—Edmand, Paul A., D. D. S.: **Wood applicators as a factor in gingival massage,** in: Amer. Dent. Surg., xlix: 358-359. Aug., 1929.

About 10 per cent of patients actually stimulate the gingiva when brushing the teeth. The use of a toothpick and the brush

for five minutes each day causes a stimulation to the gingiva which means an increased circulation and an increased number of cells. The patient is instructed to use a round polished toothpick. Beginning in the interproximal space at the median line place the pick at right angles to the tooth. Apply gentle but firm pressure repeated four or five times on each interproximal space. Where stimulation occurs nature builds up cells, be it in the mouth or the palm of the hand. Comparison of cases shows that the use of the pick as described is more beneficial than the use of the brush in these areas.

—*M. M. B.*

22—Kauffman, J. H., D. D. S.: **The hygiene of the toothbrush,** in: D. Cosmos, lxxi (2): 132-140. Feb., 1929. Abs. Dent. Rec., xlix: 142. 1929.

Sanitation of the toothbrush deserves very important consideration. Many distributors dispense their products in sanitary fashion and with the understanding that the brush is given to the consumer in a sterilized condition. Even so every new brush should be immersed in a strong disinfectant solution or in boiling water when first obtained for at least five to fifteen minutes and then left to dry. A well-made brush should not be damaged by such precautions and the bristles will be limbered up for use. Before each cleansing the brush should be held for a moment in warm water. After use the brush should be cleansed with lukewarm water.

Several methods have been advocated for the sanitation and drying of the toothbrush when not in use. One is to suspend the brush in a clean, dry place exposed to sunlight so as to facilitate its drying, since undried bristles become musty, discolored and flaccid. Toothbrushes should not be thrown together within a common family tumbler, especially in the unbecoming environment of the household lavatory. Another method is to keep the brush in a closed container which serves also as a receptacle for a disinfectant preparation such as one containing formaldehyde gas. The writer's choice is a plain glass or celluloid individual holder so ventilated that atmospheric oxygen can freely enter to aerate the brush and allow moisture to freely evaporate. A damp room or one with considerable steam heat will inhibit the drying of the brush because of the excessive moisture in the air. Still again, others advise the use of table salt sprinkled on the bristles to absorb their moisture in conjunction with one or the other methods mentioned. An unclean toothbrush is not only useless but dangerous, and much worse than none at all.

A toothbrush should be renewed every three months preferably or six months at the longest. The use of two brushes is an excellent idea, since one can thoroughly dry while the other is in action, especially when the teeth are cleansed night and morning. The tendency these days is to make brushes better and cheaper, so that there is no undue burden on the pocket to renew them repeatedly. Frequent investment in a good toothbrush is always profitable.

—*Copy.*

23—Merritt, Arthur H., D. D. S.: **Prevention of periodontal lesions,** in: D. Items of Int., li: 256-259. Apr., 1929.

A lowered resistance and bacterial infection underlie all cases of periodontoclasia. Therefore, all preventive steps must build up the powers of resistance, and reduce the bacteria of the mouth.

Function is a very important factor and the patient should be encouraged to use his teeth and jaws vigorously in mastication. Instructions in the correct use of the toothbrush are imperative. In addition to this, abnormalities of contact points and restorations must be corrected.

The principles of mouth hygiene must be applied from childhood throughout life in order to prevent periodontoclasia.

—*C. J. C.*

24—Müller-Stade, E: **Zahnbürste.** Toothbrush, in: Dtsche Z. Wschr., xxxii (6): 278. 1929.

Author quotes Endrell (Z. R. 1925 S. 33) "The toothbrush should be used with reason or not at all." Improper use of the brush may cause much harm,—paradentoses, infections of the gum and mucosa, thus leading to inflammations and their results. On the one hand, its adherents claim that in addition to its use, regular massage of the gums should be performed with it; while on the other, the reproach is made that it cannot so be used without injury to the soft tissues. He recommends use of brush tufted at both ends, with handle strongly curved (*not* his own invention); care in its use; painstaking cleanliness

as opposed to impracticable attempts at disinfection.

—*H. A. R.*

25—Willett, R. C., D. M. D.: **Care of the baby teeth,** in: J. Am. Dent. A., xvi: 745-747. Apr., 1929.

A radio message for parents and nurses emphasizes the great importance of the most thorough and painstaking care of the teeth during infancy and early childhood from the time the first tooth erupts.

Five reasons why the unimpaired use of sound baby teeth is a prime aid to the rapid growth of the head and the general development of the child: 1. Assists nutrition. 2. Promotes uniform muscle development and normal growth of the jaws and associated parts. 3. Regulates the size of important air passages which serve in the proper aeration and oxygenation of the blood. 4. The permanent teeth erupt in more correct position. 5. Promotes happiness and general good disposition through physical comfort.

Baby teeth should be closely observed for structural defects. Cavities most often occur between teeth in close contact. Fillings should be placed immediately and should fully restore the natural tooth form.

If the premature loss of a baby tooth occurs at an early age, a dentist should be consulted regarding the insertion of a suitable mechanical substitute. Cleansing of the teeth should be done after each meal, at first with absorbent cotton wrapped around the finger and dipped in a solution of boric acid, later with a soft brush, and when all teeth are erupted, with a stiffer brush. Cleansing of the toothbrush is important. The custom of hanging the toothbrushes of the family on a rack is discredited as insanitary. Regular cleansing of the teeth during illness is of utmost importance.

—*M. M. B.*

(h)—Vincent's Gingivitis

1927

1—Barrett, Louis G., D. M. D.: **Ulcerative stomatitis,** in: D. Cosmos, lxix: 346-348. Apr., 1927.

A résumé of factors known about Vincent's infection up to the time cultures had been obtained by Ellerman, Weaver, Tunnicliff and others. The fusiform bacilli grow under anaërobic conditions. The best medium is either serum or blood and agar 1:3. The colonies are small, rounded, white to yellow, similar to streptococcus colonies, but have a felted appearance. Neither spirochetes nor fusiform bacilli appear to go deeply into the tissue but form a dense layer just below the surface. Tunnicliff suggests that spirochetes may be stages in the development of fusiform bacilli. Fusiform bacilli are associated with various spreading necrotic conditions and seem to be increased in true diphtheria.

Predisposing causes include all leukocyte-destroying factors, as anemia, past venereal diseases, and infected tonsils. Traumatic occlusion is often present.

The disease may be diagnosed by the presence of a characteristic trio: odor, bleeding, and pain. The bacteriological diagnosis is considered essential.

Treatment consists of mouth wash hourly with sodium bicarbonate and should be done at home by patient with a more astringent wash as zinc chloride solution, twenty grams to the liter of water, used very warm just before retiring. Toothpaste with zinc iodide advisable. Treatment in office consists of spraying, under usual air pressure, with zinc chloride solution (20 grams to liter of water). A solution of zinc iodide and glycerin may or may not be applied. This treatment to be repeated daily until condition is better. Acute cases cured in two or three treatments.

Surgical operative procedures, such as extractions or tonsillectomies are contra-indicated during the acute stages of the disease.

—*H. J. L.*

2—Bloodgood, Joseph Colt, M. D.: **Oral lesions due to Vincent's infection. What every physician and dentist should know about its recognition and treatment,** in: J. A. Med. A., lxxxviii (15): 1142. Apr. 9, 1927.

The author describes the typical lesion and differentiates between this and other usual oral ulcers. He states emphatically that the disease is never found in edentulous mouths, the organism requiring more or less secluded crevices for growth where absolute cleanliness cannot be or is not maintained. He advises bacterial examination as routine in all oral examinations.

Dr. Bloodgood favors treatment with sodium perborate above all others, this having been suggested to him by McDonald of the army dental corps in 1919. The powder is moistened with a small amount of water and spread about the gums and teeth and allowed to remain there and foam for about five minutes. Then the mouth may be rinsed with warm water. Where the throat is involved a solution should also be used as a gargle. If the condition does not clear up at the end of a week with daily treatments by the dentist, a consultation should be had to find out the underlying cause as 95% of cases uncomplicated with other pathology respond promptly to the sodium perborate. Common general contributing causes are faulty food or absence of some specific vitamin or a diabetic background. Or Vincent's organism may be the secondary invader of a traumatic, syphilitic, tuberculous or cancerous ulcer.

Bloodgood advises that a perborate treatment be given as routine practice before dental operations even such as cleaning the teeth and that the dentist himself as well as the physician use it as a mouth wash three times a week.

He cites Vincent's as a non-precancerous lesion; also geographic tongue, although this, once present, never disappears.

It is a mistake to start treating ulcers with caustic or radium or X-ray. First determine exact nature of lesion and remove cause and observe results. When cure does not follow

promptly malignancy may be suspected and then complete excision with cautery should be performed, the operation being thus completed even should the microscope reveal cancer; or if neoplasm be large, a piece may be excised for frozen section.

Fibromas are of traumatic origin with no relation to *Vincent's* or to Leukoplakia which latter he thinks caused "by tobacco and tobacco only." If situated within "cancer areas" excise fibromas with a good margin, otherwise in localities such as dorsum of the tongue, they may be left alone. One rule applies to all spots of irritation "Find and remove the cause."

Illustrations are given of Vincent's organism and of Vincent's cases and Leukoplakia and Geographic Tongue.

—*C. R.*

3—Cadham, F. T., M. D.: **Vincent's disease: infection due to fuso-spirillary invasion,** in: Can. Med. Assoc. J., xvii (5): 556-560. May, 1927.

Vincent's disease is, as a rule, considered a mild infection. There is a current belief that the pathogenicity of the associated organisms is limited to a local ulceration. Investigation frequently shows a high degree of gingivitis. The disease is so prevalent probably as an aftermath of the epidemics among the troops in the late War, that it becomes an important detrimental factor in individual and community health.

Vincent's organisms may cause infections of the gums, mouth, tonsils, pharynx, larynx and middle ear; and may cause complications in bronchitis, pneumonia, meningitis, appendicitis, and enteritis.

Author's investigations for three years showed among 526 medical students, nurses and others where good oral hygiene was to be expected, 47 cases or an average of 9%; in 100 school children infection present in 5; in 564 school children later examined, in only one; in 300 public hospital patients, 26%.

Vincent's gingivitis frequently complicates nephritis, arthritis, diabetes and hypertension. It is almost constantly found in hospital patients with pernicious anemia and cancer; also especially in leukemia.

Experience in the army with trench mouth would indicate that it is contagious; it is also common in members of the same family. If it lasts long it may lead to ulceration of the pharynx.

Symptoms. Bleeding and tenderness of the gums, spreading rapidly. Within 2 days the gums are spongy and swollen and this condition may be uniform throughout. They show a peculiar dusky hue with punctate light areas; there is a thin whitish membrane along the gingival margin; this can also be pushed up by pressure on the gum, before pus formation. The interdental papillae become affected, pus pockets form and even the alveolar crests may be involved. Ulcers are often found posterior to the last molars. The submental and sub-lingual glands may be involved. The reaction of the saliva is acid. One symptom is present which is common to all fuso-spirillary infections, i. e., depression. Temperature rarely elevated more than two degrees, may be normal in fairly severe acute cases.

Treatment. Oral hygiene; quick relief sometimes follows frequent rinsing of the mouth with solution of sod. bicarb. Woods recommended touching the affected parts with chromic acid for one minute, followed with hydrogen peroxide; this requires care, should only be done by the practitioner. Jelinek reports cures of ulc. stomatitis by freezing gums with ethyl chlor. and using sulpharsphenamin locally or by injection (intramuscular). Recently Vincent reports success with the use of a polyvalent anaerobic serum in the treatment of gangrene.

—*H. A. R.*

4—Carpenter, E. W., M. D.: **Buccal spirochetosis,** in: Southern Med. J., xx (6): 443-448. June, 1927.

Author's summary:

(1) There is a group of ulcero-necrotic lesions of mouth, throat and nose caused by one or several of the group of spirochetes common to this region.

(2) Several types of spirochetes have been isolated.

(3) B. Fusiformis (Vincent's) found with the spirochete is by itself non-pathogenic but has a synergistic action on the spirochete.

(4) The spirochetes rapidly disappear from the lesions when vigorously massaged with sodium perborate.

(5) Sodium perborate is practical, especially with infants.

(6) Bleeding is a prominent symptom of spirochetal infection.

—*Copy.*

5—Daley, Francis H., D. M. D.: **Vincent's gingivitis in Boston in 1926.** Two reports, in: Apollonian, ii (2): 69-83. Apr. and *ibid.*, 203-206. Oct., 1927.

Report No. 1.

In summarizing the clinical appearances covered by this investigation the following points are stressed:

1. Symptoms: characteristic odor, redness and inflammation of the gums, readiness of the tissues to bleed.

2. Smearing: the use of a wire loop rather than a swab, introduced into the lesions; a thin, even film placed on slide.

3. Microscopic diagnosis: potential—mildly positive—strongly positive—negative.

Tables follow and the author's figures show that approximately 85% of all positive cases found in individuals under forty years, in persons leading sedentary lives, and in native rather than foreign born.

Treatment. The author found most successful, 25% solutions of chromic acid and argyrol used locally; applications of neosalvarsan were also made but this is not successful in the majority of cases (chronic). It is very expensive and stimulates granulation too strongly, thus leading to premature healing with pocket formation and recurrence of disease.

Solutions of sodium bicarbonate also used without great benefit because of its unpleasantness and failure of patients to coöperate perfectly; Sodium perborate recommended. When malaise is present potassium iodide given in five-drop doses three times daily.

The author summarizes his treatment thus:

1. Advantages of slow healing and complete eradication of organisms.

2. Chromic acid and argyrol in 25% solutions; regular and thorough treatment by dentist.

3. Instruction of patient and thorough prophylaxis, after acute stage over.

4. Dangers of contagion should be stressed. Cases have been known to be infected by use of telephone.

Report No. 2.

1110 smears and case histories investigated at Tufts College, Boston; age, sex, nationality, occupation.

Conclusions.

1. One person in every three has Vincent's.

2. One positive case in every three shows throat symptoms.

3. One positive case in every ten showed malaise.

4. Women are more susceptible than men.

5. Those leading sedentary lives more susceptible.

6. Those native born more susceptible than foreign born.

7. Most cases among those eating some meals or all at restaurants.

8. The disease attacks all ages.

9. Caries almost invariably present.

10. Disease usually occurs in cases of unclean mouths.

It is not contended that the organisms are not normal inhabitants of the human mouth; but the authors found many cases in which they were not present.

—*H. A. R.*

6—Escomel, Edmundo (Lima, Peru): **Reaccion de Wassermann sin sifilis en los piorreicos. La neurastenia Wassermanica.** The possibility of the positive Wassermann without syphilis occurring in pyorrhetics. Wassermannic neurasthenia, in: Odontologia, xxxvi (12): 600. 1927. Abs., Fortschr. d. Z., v (2): 451-2. 1929.

Not all luetics show a positive Wassermann; hence this reaction has only a conditional value. Escomel calls attention to the fact that still other diseases give a positive Wassermann, e. g., leprosy, recurrent fever, Vincent's angina, spirochetic bronchitis, and also the plurispirillary form of alveolar pyorrhea.

Escomel had three patients in whom most careful physical examination showed absolutely no possibility of acquired or congenital lues. They all, however, had pyorrhea with heavy deposition of calculus, as well as positive Wassermanns. Escomel describes the various bacilli found, and believes that the positive reaction is due to the predominance of spirillary forms.

By "neurasthenia of Wassermann" the author means to describe patients without lues, but who, following other systemic diseases, show a positive Wassermann reaction; these

patients often, through fear of lues, betake themselves to various "cures" and end by becoming genuine neurasthenics.

—*Transl. abs. H. A. R.*

7—Goodsell, J. Orton, Jr., D. D. S.: **A practical study of some of the problems of minor oral surgery.** See page 667—Treatment of Vincent's infection, in: D. Digest, xxxiii: Sept., 1927. (Serial).

Bowman's solution. (Liq. potass. arsenitis and vin. ipecac, āā) is used on an applicator to force the drug soaked cotton into the pockets with a firm, wiping motion to remove pabulum and promote bleeding. 15 to 20 swabs are used at one sitting. Exceptionally good results obtained, and as a rule pain relieved within 24 hours. Treatment given daily; and to prevent recurrence, continued at intervals for several weeks after apparent cure. Home use of mouth wash of ½ grain Hg bichloride dissolved in 2 oz. *each* of aq. dest. and Hydrogen peroxide, two or three times daily. Great care should be taken to differentiate the case from syphilis.

8—Jellinek, B: **New observations on ulcerative stomatitis and Vincent's angina,** in: Acta Oto-laryngologica, xi (4): 1927. Brit. D. J., xlix: 425-6. Apr., 1928.

In 1919 and '20, many cases of ulcerative stomatitis occurred at Zagreb among the troops.

After the arrival of French and Serbian troops from Salonika, ulcerative stomatitis developed among the civil population. In 1924 the number increased suddenly and from an average of about 30 a year rose to 409 in 28 months, from Aug. 1924 to Nov. 1926. Of these, 309 came from one regiment of infantry.

Three theories are advanced as to its origin. (1) that it is a deficiency disease; (2) that the immediate cause is a disturbance of the physiological equilibrium of the tissues consequent upon a neuritis due to eruption of the molars. (3) that it is a primary fuso-spirillary infection.

During the epidemic in Zagreb, the French soldiers had an excellent mixed diet and did not lack fresh vegetables or fruit. In general the same was true of the Serbian troops; furthermore most of the men with ulcerative stomatitis were in good health. The garrison troops, who did not suffer, had the same food and remained entirely immune. As to the second theory, in about a third of our cases the disease commenced in some region other than the third molar, and quite independently of that tooth.

The third view is borne out by our experiences both clinical and pathological. In favor of the contagious character of the disease may be cited two cases of autoinoculation of the finger from the mouth. In another case a soldier engaged in hospital nursing contracted the disease. Many other cases have been noted.

The symptoms vary according to locality and duration. In the mouth the molar and retro molar region are common sites. The condition, if not treated may spread to the soft palate, cheeks and lips; but rarely attacks the hard palate and dorsum of tongue. Usually the buccal and tonsillar lesions are distinct but frequently the ulceration spreads from the third molar region to the anterior pillar of the fauces. There is always glandular enlargement.

The treatment employed by author is that of freezing the lesions by means of ethyl chloride or else by the actual application of ice. This does not cause pain but on the contrary alleviates discomfort. Smoking is forbidden and an alkaline mouthwash given. Three or four applications of ethyl chloride effect a cure. The most difficult cases are those associated with the third molar. In these cases it may be necessary to extract or to excise the gum over an inperfectly erupted tooth. Only when the cure is complete should extractions or scaling be done.

—*Copy.*

9—Mack, C. H.: **Acute gingivitis associated with fusiform bacilli,** in: U. S. Naval Med. Bull., xxvi (1): 1927. Abs. Cosmos, lxx: 653. June, 1928.

A good summary of our knowledge of this condition, especially from the clinical standpoint. What is known of the relations of Vincent's organisms to its etiology is pointed out as unsatisfactory.

10—Mauldin, L. O.: **Vincent's infection of the mouth and throat,** in: Med. Jour. and Rec. Aug., 1927; Abs. D. Cosmos, lxix (12): 1311. Dec., 1927.

This article treats chiefly of the mouth and throat infection, in dealing with which the author uses hydrogen peroxide for cleansing, followed at once by a saturated solution of sodium perborate three times a day; once

daily, a 5 per cent solution of neo-salvarsan in glycerine is applied to gums, mouth and throat. All areas are carefully swabbed which are or might become infected and sulpho-arsphenamin or neo-salvarsan is administered intra-venously or intra-muscularly.

"In treating this disease the teeth and gums should be frequently cleansed but without breaking the tissue on the gums for everywhere the tissue is broken new avenues of infection are opened up, so the tooth brush, if used with this disease present in the mouth, should be used with this precaution."

"If this infection is present, carious teeth should not be extracted until the disease is cured." For a like reason, diseased tonsils should not be enucleated. But when, under treatment, the mouth and throat are free from these disease germs, all foci of infection should be eliminated.

—*Copy (Abridged)*

11—McKay, Frederick S, D. D. S.: **Vincent's angina—A simplified treatment,** in: Pacific Dental Gazette, xxxv: 461-466. Aug., 1927.

Rarely does it require treatment for more than forty-eight hours to bring an acute case of "Trench Mouth" well under control. Response in chronic cases will necessarily be slower. Invariably there exists at the point or points of attack along the gingival margin a pre-existing lesion brought about by a long standing irritation from calculus, rough edges of filling or crowns, impingement of the edges of plates, pressure from porcelain teeth on bridges, erupting teeth, particularly third molars, etc. Vincent's infection is virtually impossible in a clean, healthy mouth in which there are no lesions or irritations. Treatment consists of spraying the teeth and gums in sections with a solution of hydrogen dioxide diluted one half with water driving the solution under the gum margins, and into the approximal spaces. Allow the bubbling to continue for a minute or two before washing out with warm water. Next thoroughly mop the mucous membrane of gums, roof of mouth and tooth surfaces with the solution. Remove the furry covering on the surface of the tongue with a tongue scraper and wipe with the dioxide solution. Next mildly cauterize and destroy the dead and diseased tissue using either a mild solution of chromic acid or an application of Churchill's iodine followed by 10 per cent silver nitrate solution or apply a mixture of phenol with iodine, half and half. Dismiss the patient with instructions to use an oxidizing mouth wash, preferably a half solution of hydrogen dioxide with water every two or three hours. The case should again be treated as above the next day and daily until the acute symptoms have subsided. Usually by the third sitting the diseased condition is under control. When the acute symptoms have subsided any condition that exerts an irritating influence upon the soft tissues should be removed. Periodical visits for prophylaxis should be established and careful instruction given as to the patient's after care. Treatment consisting of intra-muscular injections of such agents as salvarsan are unnecessary.

—*M. M. B.*

12—Moore, Arnott A., D. D. S.: **Vincent's and other acute surface infections of the mouth,** in: J. Am. Dent. A., xiv: 330-334. Feb., 1927.

In acute surface infections of the mouth the patient's temperature is from 100-105° F, the pulse rapid and weak with general malaise and the urine has varying amounts of albumin and casts. The local symptoms are pain, swelling, fetid breath and more or less neck and glandular involvement. It is important to take smears in order to make a differential diagnosis. Large numbers of Vincent's spirochetes and bacillus fusiformis are found in smears from Vincent's disease. Treatment consists of applying a 1 per cent solution of acriviolet twice daily until the acute symptoms and sloughing have subsided, then alternate occasionally with arsphenamin in glycerin or ammonium fluorid solution. A mouth wash of a 1:5000 solution of mercuric chloride in hydrogen peroxide is recommended and the patient told not to clean the teeth during the acute stage. In streptococcal infection of the mouth the tissues are a cherry-red, with usually some pus present; marked sloughing is unusual. There is usually pain and some neck involvement. Treatment consists of applying either 1 per cent acriviolet, 1:1000 neutral acriflavin or mercurochrome-220 soluble, 2 per cent under the free margin of the gums with a blunt needle syringe. In pneumococcus infection apply quinin sulphate with swabs alternating every day with acriviolet and use the hydrogen peroxide-mercuric chloride mouth wash. In saprophytic infections the gums are pale and grayish with necrotic membrane or sloughs. Treatment

consists of the use of a very mild mouth wash and the application of a 10 per cent solution of ichthyol daily alternating with 1 per cent acriviolet solution. Operative procedure should not be resorted to in acute surface infections of the mouth, if it can be avoided.

—*M. M. B.*

13—Pratt, Josephine S., M. D.: **On the biology of bacillus fusiformis,** in: Jour. Inf. Dis., xli: 461-466. 1927.

A review of the literature showed that very little had been done on pure cultures of the group and nothing on the serological relations. The author describes very careful and painstaking laboratory research on various strains of this organism; she disagrees with Tunnicliff, and her later work has not led her to change her opinion. Her conclusions are quoted below:

Fusiform bacilli seem to be present normally in small numbers in the throat; being found in 100% of the human beings examined, in 100% of the monkeys, in 66% of the guinea pigs and in 48% of the rabbits in this series. Under certain abnormal conditions these bacteria increase and probably function as secondary infecting agents. On the basis of sucrose fermentation two cultural groups are demonstrable, but the difference bears no relationship to the source of the cultures. Complement fixation failed to prove the existence of serological groups, each antigen fixing its homologous antiserum only, indicating a serologic heterogenicity. The fusiform bacillus and the spirochete commonly found together are different microorganisms.

14—Reasoner, M. A. and W. A. Gill: **The use of soap in the prophylaxis of Vincent's infections,** in: J. A. M. A., Mar., 1927; Abs. D. Cosmos, lxix: 652. June, 1927.

Solutions of ordinary toilet soaps, as well as pure soaps prepared in the laboratory have a selective action on this class of organisms and a definite spirocheticidal effect, and their use in dentifrices assists in keeping the oral cavity free from mouth spirochetes, thereby affording a measure of protection against tissue infection.

The laurates, palmitates, myristates and oleates are all efficient for this purpose, probably in the order mentioned.

The presence of the organisms of this disease and of the disease itself vary inversely with the care given to personal hygiene and of the regular use of soap by the persons concerned.

The proper use of soap and soap compounds is rather that of a prophylactic than a method of cure and their use for the latter purpose is not recommended.

—*Copy.*

15—Rukawischnikoff, E: **Bacillus fusiformis and spirochaeta Vincenti,** in: Centrl-Bl. f. Bakt. i abt. Orig. Oct. 30, 1926. Abs. D. Cosmos, lxix: 220. Feb., 1927.

The author regards the fusiform bacilli and the spirochetes of Vincent as different developmental stages in the life cycle of one and the same organism. In this he aligns himself with Tunnicliff. A very complicated life history, including cysts, is described.

—*Copy.*

16—Sanarelli, G.: **Indentité entre spirochètes et bacilles fusiformes les héliconèmes "Vincenti."** The identity of spirochaetes and Bacilli fusiformes—Heliconema Vincenti, in: Annales de l'Institut Pasteur, xli: 679. July, 1927. See Canad. Med Assoc. Jour., xvii: 1391. Nov., 1927.

"It may be said at once that Sanarelli believes in the identity of the two forms. The spirillum will not grow well on ordinary media except when Bacillus mesentericus is associated with it. When old, filtered cultures of B. Mesent. are used, after some hours the original spirochaetes appear in the form of fusiform bacilli. After several transfers to peptonized water, they return to the spiral form.

A further observation favorable to this theory is that serum of rabbits immunized against living cultures of spirochaetes, has an equal agglutinating value in respect to both spirochaete and B. fusif.; still further, in an animal dead of large doses of B. fusif. (intraperitoneally or intravenously) the organism can be recovered in spiral form.

The amount of oxygen present is apparently important. Scanty oxygen means spirochaetes, more O. or more prolonged exposure means bacilli fusif. This observation seems to be confirmed by the findings of other authors."

—*(Abridged) Copy.*

17—Tishler, Benjamin, D. M. D.: **Consideration and treatment of gingival disturbances (Vincent's)**, in: Apollonian ii: 144-151. July, 1927.

This article covers in a brief and general way some types of gingival disturbance. Vincent's infection is treated at some length as perhaps most prevalent at present. Its usual clinical characteristics are described, especially the sloughing of the interdental papillae. The treatment of *Adam* is cited as consistently successful; i. e., painting the diseased areas with Churchill's iodine (17%) over which while still wet a ten per cent aqueous solution of silver nitrate is applied. Sodium perborate is used as a mouth wash every half hour. Smoking and tooth brushing are forbidden. This treatment is continued for two or three months.

The remainder of the article is devoted to the discussion of other forms of gingivitis.

—*H. A. R.*

18—Varney, Philip L.: **Serological classification of fusiform bacilli**, in: J. Bact., 275-314. 1927.

The data presented in this paper, which begins with an exhaustive review of work on fusiform bacilli from Plaut in 1894 to Pilot in 1924, are based upon study of 18 pure cultures. Roughly this author has isolated four types: (1) narrow filamentous; (2) short, slender; (3) broad, stubby; (4) long chains.

Types 3 and 4 may often be identified by morphological studies of appearances alone but 1 and 2 can be safely differentiated only by serological tests. Classification on cultural and morphological grounds only should not be attempted. Surface culture methods are adapted to isolation and cultivation of all types of fusiform bacilli.

A wavy type has been isolated in which spirilla-like forms are found. These spiral forms which are non-motile and transitory, have no relation to true spirilla.

19—Wack, Louis, D. D. S.: **Vincent's angina**, in: D. Digest, xxxiii (12): 879. 1927.

The word "angina" refers to a choking off of the respiration. Webster's Collegiate Dictionary defines it thus: "Any inflammatory affection of the throat or fauces, especially one causing suffocative spasms." We, as dentists, will seldom see such a condition. It might, therefore, be more rational to designate this condition as simply Vincent's infection or Vincent's gingivitis rather than Vincent's angina. Pain is almost always present and is sometimes so severe as to prevent sleep. Another difference is in the quantity of bleeding.

Bacteriological examination may be of occasional assistance but the clinical symptoms are of more importance to the trained diagnostician.

Vincent's infection is pre-eminently a disease of youth. Men seem to be more predisposed to it than women.

Patients should be warned of the highly infectious nature of their condition. They should not eat in public restaurants. Their dishes and silver should be boiled after each use. All kissing is to be strictly prohibited.

The presence of pyorrhea confers no immunity, but on the contrary predisposes to infection by the spirilla.

—*J. L. W.*

20—Weber, Rudolf: **Das Blutbild bei entzündlichen Erkrankungen in der Mundhöhle.** The blood picture in inflammatory disease of the mouth, in: Dtsche. Mschr. f. Zahnheilk, xlv: 482-487. June, 1927. Rev. D. Cosmos, lxx: 113, Jan., 1928.

The author has applied the views of Arneth and v. Schilling on the significance of the form of the nucleus of the neutrophilic leucocyte to five cases of oral infection (four periapical infection, one ulcerative gingivitis). The purposes were:

(1) to secure a standard which would indicate the extent to which oral infection affected the organism as a whole and

(2) to obtain an indication of the extent to which treatment affected the blood picture.

In general oral infection is characterized by a "nuclear displacement" of mild degree (neutrophilia with simple or hypogenerative nuclear displacement).

The author has repeatedly observed cases of ulcerative gingivitis which, after disappearance of clinically visible symptoms, still showed distinct alterations in the blood picture. The significance of this appears from the fact that frequent recurrences were noted in this group.

—*Copy.*

1928

21—Albray, Raymonde Adair: **Vincent's infection of the mouth,** in: The Laryngoscope, xxxviii (4): 250-263. Apr., 1928.

If this disease appeared only in the mouth it would still be of considerable importance because of damage to the gums and alveolar process, followed it may be by loss of teeth, destruction of investing tissues and establishment of food pockets; besides which, it may spread from the mouth to other parts of the body where the organisms may produce their typical gangrenous processes. The work of Davis and Pilot is cited (J. A. M. A., 1922) "that syphilis is not in any way a factor in the above mentioned infections," viz.: putrid pneumonia, lung gangrene, pulmonary tuberculosis, etc., all with foul, fetid sputum teeming with B. fusiformis and spirochetes" but Albray says it is well to have a Wassermann test made "for we have found a number of cases in which syphilis was undoubtedly a factor in the severity of the destruction taking place."

He describes several interesting cases showing the possibility of even fatal results and proving the communicability of the disease.

Vincent's disease warrants careful consideration and treatment by dentists and doctors; coöperation is necessary in order to combat it successfully.

It is extremely prevalent and early recognition with thorough treatment is imperatively demanded. When B. fusiformis and spirochetes are present, large numbers of cocci are also found. Presence of large numbers of Vincent's organisms in the mouth are a factor in the irritation and infections of nose and throat. Smears should always be made for microscopical examination, the only safe method of checking up on the effects of treatment.

—*H. A. R.*

22—Anwyl-Davies, Dr.: **Bismuth in the treatment of syphilis,** in: Lancet, January 22, 1928, Brit. D. J. Feb., 1927, p. 163. J. Am. Dent. A., xv (1): 192-193. 1928.

It is well known that bismuth preparations, like mercury, can give rise to stomatitis. Special attention has been given in French literature to this result of bismuth treatment for syphilis and some excellent accounts of the condition have appeared in French journals. Doctor Anwyl-Davies in an article as titled above gives a good account of the various forms of intolerance to bismuth. A blue line on the gums is one of the first and most valuable signs that the limit of tolerance to bismuth has been reached. At first there is a gray line which turns to a grayish-blue color. Dr. Anwyl-Davies states that even when the line turns definitely blue the administration of bismuth need not be definitely stopped, but the dosage should be reduced. If stomatitis develops, the injections of bismuth should be stopped, as the action of the drug is cumulative. According to L. W. Harrison, the appearance of the blue line occurs more frequently when using the soluble compounds. In some cases of severe bismuth poisoning the blue line may be absent. Dr. Anwyl-Davies has noted the occurrence of Vincent's angina in four cases as a sequel to the injection of bismuth. It was not preceded by a blue line, but the condition would not respond to treatment until the administration of bismuth had been stopped. He states that patients receiving bismuth are more prone to Vincent's angina than usual. It is probable in such cases, as some of the French writers have pointed out, that both bismuth and mercury act by lowering the resistance of the oral mucosa in some way, and that both bismuth and mercurial stomatitis are in reality due to a fuso-spirillary infection, indistinguishable in its clinical aspects from Vincent's angina.

23—**Bibliography on Vincent's Infection.** Library Bureau, in: J. Am. Dent. A. May, 1928, xv: 983-986.

Contains a list of 77 articles dealing with Vincent's Infection appearing in different dental journals from Jan., 1924, to April, 1928.

—*M. M. B.*

24—Brody, Herman, D. M. D.: **Vincent's disease in general practice,** in: Dent. Digest. Dec., 1928.

Vincent's infection of the oral mucosa is an expression of decreased resistance of the mucosa to the fuso-spirillary symbiosis. Besides local treatments, factors which build up the general condition are to be considered. Fresh air, rest and good diet plus local application of zinc iodide solution.

Author doubts benefit from arsphenamin.

Local applications of zinc iodide solution in infected areas is a specific in treatment of Vincent's. In the majority of cases the disease yields to six or seven daily applications thoroughly carried out. In some cases a 7% solution of chromic acid is used.

Caution in using strong caustics. These are contra-indicated because of necrosis and re-infection.

25—Brown, Dee J., Ph. G., D. D. S.: **The Vincent's complication,** in: Pacif. Dent. Gaz. xxxv (5): 286-8. May, 1928. (Discussed by Dr. Arthur W. Lufkin.)

Dean Lufkin's conclusions from Dr. Brown's paper.

1. Acute form easily recognized; the chronic form more prevalent and less easily recognized.

2. Insanitary mouth conditions predispose but not always responsible.

3. Disease caused by fuso-spirillary symbiosis in contact with some solution of continuity in oral mucous membrane.

4. Smears are necessary for diagnosis of chronic Vincent's.

5. Extreme care and attention to detail indicated.

26—Chance, P. R. (Nice): **Vincent's infection (Trench mouth),** in: D. Cosmos, lxx: 1226. (Letter to editor). Dec., 1928.

Dr. Chance had an unusual experience with Vincent's disease in the war and never had a case which was not 50% cured after the first treatment with a ten per cent solution of tri-chloracetic acid freely applied on pledgets of cotton. He never used anything else.

27—Daley, Francis H., D. M. D.: **Studies of Vincent's infection, at the clinic of Tufts College Dental School,** from Oct., 1926 to Feb., 1928, in: Jour. Dent. Res. viii (3): 408. June, 1928.

During a period of seventeen months, 2035 mouths were examined for Vincent's disease, smears obtained, and complete case histories recorded, as patients presented themselves for general operative dentistry. Of this number, 664 (32.6 per cent) showed microscopic and clinical evidence of Vincent's infection; and 289 (14.2 per cent) had potential infection (that is to say) microscopic evidence of organisms was slight, but clinical symptoms were indicative of the need for treatment to prevent development of infection.) The sexes were equally susceptible, and the disease occurred at all ages, whereas pyorrhea is rarely found under thirty-five. Dental caries was almost invariably present with Vincent's infection, whereas with pyorrhea it seems to be latent. A majority of the cases were peculiar in seeming to progress only to a certain point, and then to hold a fairly uniform course over an indefinite period without displaying the symptoms characteristic of true Vincent's infection.

28—Day, Bret.: **"Vincent's infection,"** in: D. Cosmos, lxx: 937. Sept., 1928.

In a letter to the editor, Dr. Day writes: "One sees Vincent's infection of all types (mildly acute to chronic) unfortunately all too frequently here in Egypt; and in my ten years experience in treating it, I have relied for some considerable time on the following:

(1) Usual oral prophylaxis

(2) Fowler's solution

(3) Painting the gums with a sat. sol. of methylene-blue

(4) Followed immediately by exposure of ten to fifteen minutes to the Arnone ultra-violet ray lamp.

The sat. sol. M. B. does not stain the teeth for more than an hour. He notes that it will stain the lips if a woman has not removed the modern-day rouge. It will stain certain "synthetic porcelain restorations" which Day regards as a good thing, "as it shows a porosity of evil portent."

29—De Croes, and Dr. E. Levy: **Latent ulcero-membranous gingivitis with acute hemorrhagic exacerbation,** in: La Presse Dentaire, Apr., 1929. Abs. Dent. Rec. See also Ind. Dent. Jnl. Oct., 1928. pp. 95-96.

On Nov. 7, 1928 a patient was seen who had an ulcerative infection of the interdental papilla between the first and second right upper molars. The ulceration continued to spread until November 12th when suddenly it appeared on the left maxilla and there was also congestion of the other interdental papilla with some tendency to bleed. A diagnosis of ulcero-membranous stomatitis was made as much on the general signs of fever, fetid breath, loss of appetite as on the local lesions. The gingivitis gave way to treatment on Nov. 26th. As the result of general treatment the

patient's health had improved, but owing to rather intemperate living a chronic appendicitis soon afterwards became acute and appendectomy had to be performed.

All went well until December 8th when the ulcero-membranous stomatitis reappeared in its former site but rather more extensive than previously, spreading as far as the third molar accompanied by nocturnal bleeding. This bleeding continued, and could not be controlled, although it was evident that the blood coagulated almost as soon as it was exuded.

The hemorrhage became considerable and could not be arrested by local applications or serum for more than a few days. The blood picture was normal except for a diminution of about one million red cells per cubic mm. General treatment with fresh meat and vegetables, intra-muscular injections of fresh blood and serum by mouth and locally was then given, and the condition improved immediately. The exacerbation of the fuso-spirillary stomatitis after appendectomy is an interesting illustration of the dependence of this condition on a diminution of general resistance.

30—Dimas-Aruti, F. M., D. D. S., L. L. B. (San Juan, P. R.): **Spirochetal stomatitis,** in: Aider-er, vi (6): 8. 1928.

The author has treated in Porto Rico hundreds of cases of an infectious spirochetal stomatitis which occurs in patients who have already suffered from a subacute scorbutus through vitamin deficiency. The disease is the precursor of periclasia and its sequelae. The symptoms are fever, malaise and depression as the results of infection of long duration.

Differential diagnosis: pyorrhea is chronic, and not to be confused with an acute spirochetosis. The differentiation from diphtheria is more difficult since tonsils and throat may be attacked. In doubtful cases a bacteriologic investigation must be made. The interdental abscesses serve to differentiate from syphilis and tuberculosis, being very different from the symptoms of the latter infections. Treatment: Local, general and prophylactic treatments give results. Special emphasis should be laid on anti-scorbutic diet. The prognosis is good in early cases.

31—Doubleday, F. N., L. D. S., M. R. C. S., L. R. C. P.: **Chronic fuso-spirillary infection of the periodontal membrane,** in: Brit. Dent. J. Jan., 1928.

"There is a certain type of patient in whom considerable destruction of the periodontal membrane and bone occur without the formation of any pus—at least in the earlier stages. This seems to point to the fact that the infection is one with organisms which have a negative chemotaxis. On examining the patient, a pocket of varying depth is found around the affected teeth; a collection of whitish material mainly food débris may be seen around the neck of the tooth; in later stages secondary infection with pyogenic organisms may occur and then pus will be formed.

The inflammation of gum varies in degree. It is always red, sometimes intensely red and bleeding at the slightest touch. The tooth may become very loose. In such cases two organisms are constantly found,—Spirochete dentium and bacillus fusiformis.

Mild cases go on for years—severe cases are associated with rapid decalcification of bone. Treatment is directed against micro-organisms.

—*H. A. R.*

32—Editorial: **Skepticism as to the nature of Vincent's disease,** in: D. Surgeon, Dec. 15, 1928.

When Vincent's stomatitis was first described some doubt was expressed as to its supposed bacterial origin. It was pointed out incidentally that a very similar syndrome sometimes accompanies the eruption of third molars. Recently the entire question has been agitated anew by V. Jelinek, although this author does not go on record as disputing the bacterial origin and limits himself to enumerating opposed beliefs, two in number. The first or vitamine deficiency theory seems to have been exploded by statistics of the late World War, in which epidemics occurred without any reference to dietetic restrictions. The second or molar eruption theory, despite the behavior of individuals, does not stand up under statistics, for there is no evidence that the disease is more frequent at the sixth, twelfth or twentieth years or indeed any particular age period. The editors of the Dental Surgeon contrast the weakness of the arguments supporting these two theories with the strength of those back-

ing up the theory of bacterial origin. The Vincent symbiosis is never absent and the disease spreads rapidly among healthy troops while this spread is easily checked by isolation. The most that can be said on the other side, perhaps, is that other factors may produce a condition which clinically simulates Vincent's stomatitis. Even the laity knew formerly, if they do not know now, that eruption of third molars may cause a sore mouth out of all proportion to the degree of irritation and severe enough to lead to fasting.

33—Faber, Harold K.: **"The treatment of fuso-spirillary infections of mouths in children with special reference to the intra-muscular administration of sulpharsphenamin,"** in: Am. J. Dis. Children, xxxvi: 463. Sept., 1928.

Faber cites a number of cases of infants and children with Vincent's infection of the gingivae treated successfully by intra-muscular injection of sulpharsphenamin. Some had been previously given local treatment with indifferent results. Difficulty of local applications in infants and young children and apparently permanent results from this treatment, recommend it particularly for children.

Gets best results with supharsphenamin injected intra-muscularly as follows:—1 dose 15 mg., per Kilogram of body weight; 2nd dose rarely indicated.

Improvement is marked and apparently specific in from one to four days. Warns against discouragement in cases where a latent period with no visible improvement for one to three days supervenes before cure is apparent. Local treatment advantageous as an adjunct but only cleansing solutions need be used.

—*C. R.*

34—Frachtmann, Morris: **Treatment of Vincent's infection,** in: D. Cosmos (Hints), lxx: 1131. Nov., 1928.

Frachtmann recommends the use of equal parts of phenol and trichloracetic acid and H_2O as a specific. It is allowed to act for one-half minute and applied to affected area every other day. The patient is instructed to remove mucous membrane as it comes away. Three treatments usually suffice to effect a cure in the average case.

35—Giussani, M.: **Contribution to the etiology and pathogenesis of Plaut-Vincent's stomatitis and angina,** in: Policlinico, 1928; D. Cosmos, Jan., 1930. p. 106.

Eighteen cases, most of them between the ages of 20 and 30 years. Most of the cases appeared in the summer. Familial infection was never observed. The infection could not in all cases be related to bad general and local hygienic conditions. Giussani has no doubts regarding the pathogenic specificity of the fuso-spirillary symbiosis. From the microscopic examination of the pseudo-membranous exudate at various depths, it appears that the chief factor in the origin of Plaut-Vincent's angina and stomatitis is the fusiform bacillus.

36—Hardgrove, T. A., D. D. S.: **Vincent's infection,** in: J. Am. Dent. A., xv: Nov., 1928.

Not a new disease.

For many years there has passed through our hands Vincent's infection unrecognized, undiagnosed and mistreated, being regarded as symptomatic of scurvy, syphilis, tuberculosis and other diseases.

Treatment: Carry to the point of infection a certain amount of chromium trioxide on point of instrument into the pocket and then have the patient hold a mouthful of hydrogen peroxide. There will be a copious evolution of nascent oxygen, with relief from infection and pain.

37—Kast, Clara C.: **Observations on the morphology and motility of fusiform bacilli,** in: J. Lab. and Clin. Med., xiv: 112. Nov., 1928. Summary, D. Cosmos, lxxi: 328. Mar., 1929.

(1) No evidence of spirochetal forms was seen in a pure culture of fusiform bacilli grown anaërobically in media of varying hydrogen-ion concentration containing fresh tissue.

(2) Colony formation and the division of fusiform bacilli were observed in a micro-slide preparation.

(3) Motile fusiform bacilli, together with non-motile forms, were found in material taken directly from pathologic conditions and in mixed cultures in Schereschewsky's coagulated horse-serum media.

—*Copy.*

38—Kline, B. S., M. D. and Berger, S. S., M. D.: **The relation of oral spirochetosis to pulmonary gangrene,** in: J. Am. Dent. A., xv: 64-68. Jan., 1928.

This usually fatal disease is produced by the presence of mouth spirochetes and fusiform bacilli. Its prevention is possible by proper oral hygienic or therapeutic measures. History and occurrence of spirochetes in the mouth given. H. Steuer proved that the organisms of Vincent's infection are present in large numbers in both unclean and clean mouths. Rona (Hungary) first reported the presence of these organisms from carious teeth in pulmonary gangrene. Pulmonary gangrene produced experimentally in animals by injection of material containing innumerable mouth spirochetes and fusiform bacilli from Vincent's infection, dental caries and ulcerative gingivitis. Complete tissue immunity ordinarily keeps the organisms in check, but prophylaxis is of great importance. Specific spirochetocides are the arsphenamins locally and if necessary intra-venously, and oxidizing agents such as sodium perborate, hydrogen peroxide and the chlorates locally. Prophylactic measures should be carried out in all patients before operations in the oral cavity and before operations anywhere under general anesthesia.

—*M. M. B.*

39—Kline, B. S., M. D.: **Pulmonary abscess and pulmonary gangrene,** in: J. A. M. A. June 23, 1928.

Conclusions: Pulmonary abscess and pulmonary gangrene are separate entities. In spite of distinguishing characteristics they are, however, almost universally considered and treated as one disease.

Pulmonary abscess unassociated with a focus of suppuration elsewhere in the body is aspiratory in type and offers a fair prognosis.

Pulmonary gangrene, comparatively, is a much more severe disease and occurs more frequently than is generally believed.

There is conclusive anatomic and experimental evidence that pulmonary gangrene is caused by a group of organisms, notably spirochetes, fusiform bacilli and vibrios, aspirated from the oral cavity.

In cases observed clinically a careful examination of the sputum is sufficient to make possible a differential diagnosis between pulmonary abscess and pulmonary gangrene. In cases of pulmonary abscess, the sputum is yellowish, muco-purulent or purulent and has no appreciable odor. When washed it shows the pyogenic organisms in cultures and in smears stained by the Gram method. In cases of pulmonary gangrene, on the other hand, the sputum is foul smelling and grayish brown or grayish green, and shows the characteristic spirochetes, fusiform bacilli and vibrios in stained smears.

As the cases of pulmonary gangrene do not respond well to the treatment for abscess but are frequently cured by arsphenamin therapy, the differentiation between these two diseases is imperative.

If it is true that the organisms producing pulmonary abscess and pulmonary gangrene are aspirated from the oral cavity, the reduction of trauma by the surgeon in the operative cases will do less to prevent these conditions than proper oral hygienic and therapeutic measures. Such a program of pre-operative oral care is emphatically recommended.

—*C. R.*

40—Knowlton, R. H.: **Vincent's infection,** in: Bull. Fla. State Dent. Soc. Jan., 1928. Abs. J. Am. Dent. A., xv: 974. May, 1928.

Author discusses the use of applications of chromic acid in 5-7% solution, followed in a few minutes by Tr. Benz. As in the form of Fowler's sol. with equal parts of wine of ipecac; but preferably, neo-arsphenamin. The most popular mouth wash seems to be Na perborate, which can be entrusted to the patient. No instrumentation during the acute stage; but in more severe cases, topical applications do not penetrate deeply enough to stop the process. Author notes the outbreak of active Vincent's infection in cases under treatment of neo-salvarsan. The final round-up of these cases starting in the gums is in the hands of the dental surgeon.

41—Laffoon, France L.: **Treatment of Vincent's infection,** in: Arch. Phys. Ther. X-Ray Rad.; J. Am. Dent. A. June, 1928, p. 1169.

Among various conditions successfully treated by physical therapy, author reports a case of Vincent's infection in a girl, aged 15, in which the condition of the throat and gums cleared up after the first treatment. Infected cervical glands require not more than three treatments and in severe cases the

ultra-violet ray is used in addition. The author reports good results in a few cases of pyorrhea treated. He states that, in these cases, the applicator must be in contact with the quartz window of the burner and the gums must be dehematized from pressure of the applicator. A third or fourth degree burn must be produced to assure results and only a few teeth can be treated at one sitting as the reaction will cause some discomfort in eating.

42—Miner, Leroy M. S., M. D., D. M. D.: **A general consideration of the problem of Vincent's infection.** A Summary, in: D. Digest, xxxiv: 652. Sept., 1928.

Vincent's infection is one of the greatest problems confronting dentistry today. Up to 1915 it was practically unknown, but at the present time it is almost universal. It is both epidemic and endemic and respects no class nor community. No amount of care of the teeth will prevent its occurrence.

The acute form is spectacular and highly contagious and when a case has once been seen it can never be mistaken for anything else. While it is frequently very painful and the signs and symptoms are alarming, it responds readily to treatment and may be brought quickly under control as a rule.

The chronic form is more difficult to diagnose and combat. This form may never have been through the acute stage, and without doubt many chronic cases have been diagnosed as periodontoclasia. The disease is not necessarily confined to the oral cavity but it is there that it occurs most frequently.

The etiology is still uncertain. The bacillus fusiformis and the spirochaete refringens are usually present, but since these are not pathogenic for laboratory animals, it is hard to prove that they are the causative agents.

The great need is to educate the public in regard to the prevalence and contagiousness of this disease. Some men have advocated that it be made a reportable disease, but while the essayist does not believe that this is necessary at present the rapid increase and wide distribution of Vincent's infection is a matter of grave concern.

—*Copy.*

43—Musburger, Lloyd E., D. D. S.: **Vincent's infection.** (Brief compendium of treatments now used by certain authorities), in: D. Cosmos, lxx: 1029-30. Oct., 1928.

Walter Reed General Hospital. The Surg. Gen., U. S. Army:

50% H_2O_2 as mouthwash every 4 hours, held at least 3 minutes. 7% chromic acid locally. Thorough prophylactic measures; intravenous injections neo-salvarsan tried out during war and abandoned.

Geisinger Memorial Hospital, Danville, Pa. A. B. Vastine:

5% arsphenamin in glycerin or pure powder locally, for Vincent's organisms; for strep., mercurochrome, 5%; staph., acriviolet, 1 or 2%.

Northern Pacific Hospital (St. Paul). A. W. Ide:

50% H_2O_2 mouthwash every hour or Fowler's solution with this. Neo-salvarsan intravenously, .45 to .6 gm. five to 7 days apart. Has used sod. perbor., neo-salvarsan and chromic acid locally but not found them of much value.

Columbia University. H. J. Leonard:

50% H_2O_2 with bichlorid of Hg 1-1000. For some cases injection of neo-salvarsan seems helpful in eliminating residual infection. No advantage in use of caustics.

Minnesota University, Bact. Dept. W. P. Larson:

Sodium ricinoleate. Intra-venous injections should not be given as a general rule except in cases of generalized infection.

Minneapolis General Hospital. Dan E. Ziskin, D. D. S.:

Spray H_2O_2 and local application neo-salvarsan; H_2O_2 as mouthwash 4 times daily; Prophylaxis.

Minneapolis University Hospital. W. A. Grey, D. D. S.:

Chromic acid, sod. perbor., bichlor. Hg., etc., but they do not compare "with trichloracetic acid in our hands."

U. S. Public Health Service. R. C. Williams, Asst. Surg. Gen.:

No specific. Real solution of treatment of this disease has not been reached. Epidemic on coast guard boats not stopped until live steam was used on board to sterilize all cooking utensils.

For Stanton, N. Mex. N. Y. Hooper:

Help nature by not using strong germicides. Spray with physiological salt solution. Remove crowns, overhangs, etc. Mouthwash

50% H_2O_2 every hour. Scaling as fast as possible.

San Francisco, Calif. E. E. Buell:

Salvarsan, 1 gm to oz. Aq. dest. held in mouth 10 to 20 minutes 3 times daily. Scrub gums 5 times daily with soap, wash with common salt. Thorough prophylaxis.

New Orleans, La. E. C. Stamm:

H_2O_2 as spray; neo-salvarsan in glycerin. Sod. perborate. Patients develop Vincent's infection after injection for lues.

U. S. Coast Guard Acadamy, New London, Conn. F. C. Cady:

50% H_2O_2 as spray; 5% K dichromate, locally, 5 minutes. Norm. sal. mouthwash. Sterilize toothbrush in 25% formalin.

Cleveland, O. D. B. Newell:

At first sitting remove deposits. Spray with H_2O_2 Tinct. Benz. C. P. locally. H_2O_2 after each meal. Oral prophylaxis.

Relief Station, Washington, D. C.:

Neo-salvarsan powder. .15 gm. in 2 cc. aq. pur. locally 15 to 20 minutes. Neo-salvarsan injected. Saline mouthwash, Fowler's and H_2O_2.

44—Newgarden, Mark: **Vincent's infection,** in: D. Items of Int., 1: 29-41. Jan., 1928.

Vincent's disease includes both Vincent's angina and Vincent's infection. The former is restricted to lesions of the throat and tonsils; and the latter to the oral cavity only. The b. fusiformis and the spirochete of Vincent's are always present. These bacteria are anaerobic, gram negative and take the ordinary stains.

The ulceration is grayish and the surface easily removed, revealing a hemorrhagic area. The lesions usually occur near the orifice of the parotid duct, in the mucobuccal fold adjacent to the lower molars; on the inner surface of the cheek and it may also appear on the hard or soft palate, or on the tongue. Usually, it is noticed on the gum festoons between the incisors or molars. Early diagnosis is important to insure the prognosis being good, and serious complications result from neglect.

The micro-organisms may be the primary cause of the disease or secondary to systemic or oral conditions causing lowered resistance or favoring bacterial growth. The infection is either potential, subacute, or acute. The potential, through lowered resistance may become subacute; and the subacute type, by neglect may also become acute, and with complications may terminate fatally. The subacute infection generally responds to local applications of potassium dichromate and home treatment. Many cases have been cured by removing the cause. Neo-salvarsan, by injection, and more recently sulpharsphenamin, intra-venously, attain good results in the acute type.

During the course of the infection strict mouth hygiene is essential and abstinence from alcoholic beverages, tobacco and condiments.

—*C. J. C.*

45—Nivard, E. (Paris): **Les infections spirillaires de la cavité buccale et leur traitement.** Spirillary infections of the buccal cavity and their treatment, in: Revue odontologique, xlix (5): 357. May, 1928.

This article reports some cases and describes their treatment with "Odarsol" a preparation of the Laboratoires Clin. which the author regards as a panacea.

46—Pardee, Gordon & Riley: **Vincent's infection,** in: New Eng. Jour. Med. May 31, 1928. J. A. D. A., xv (8): 1603. Aug., 1928.

Authors analyze their findings in a study of smears taken from the gums and throats of 462 Smith College students. Numerous fusiform bacilli and spirilla were found in 139 smears. Mild but definite clinical involvement was manifest in 113 cases, but only two developed all the typical symptoms of Vincent's infection. It was the purpose of the authors to seek further information on the general prevalence of the condition, the existence of carriers, the degree of contagion and the influence of poor mouth hygiene and smoking on the condition, as it was felt that data already published were inconsistent and inconclusive in many cases. After the first dozen or more students were found to have the infection, many students came voluntarily for examination, believing themselves to have the symptoms or to have been exposed. Smears obtained by cotton stick applicators were generally sufficient for demonstration of the organisms, but in a few suspected cases with negative reaction dental technic was necessary to obtain a positive smear. Carbol-fuchsin stain was used and

only smears showing both fusiform bacilli and spirilla were considered positive. Treatment, carried out by local dentists consisted of daily applications of chromic acid and a mouth wash. Treatment required from two days to two weeks before smears were negative. The fact that good oral hygiene was the rule accounted for the fact that the percentage of positive tests among the whole number examined was lower than the percentages obtained by other investigators. In the group studied, moderate smoking (6, 8 or more cigarettes a day) or occasional smoking seemed to have no particular significance although dentists noted that heavy smoking delayed cure.

—*Copy.*

47—Pilot, Isador, M. D.: **Fuso-spirochetal infections of the mouth,** in: J. Am. Dent. A. Sept., 1928. xv: 1763-1767.

The spirochetes are absent in the mouths of the new born and in the toothless aged but the fusiform bacilli are found in small numbers. The habitual washing and cleaning of the teeth reduces enormously the incidence of various bacteria particularly the spirochetes. It is fallacy to make a diagnosis purely from bacteriologic smears. Deficiencies in diet may be the source of obscure mouth infections or a factor in healing. Foul breath is a prominent symptom in fuso-spirochetal infection of the mouth. The source of fuso-spirochetal abscess or gangrene of the lung may be bacteria of the mouth, and frequently occurs after anesthesia. Proper prophylaxis of the mouth before giving an anesthetic is necessary to prevent pulmonary infection.

—*M. M. B.*

48—Ramorino, Dr. Camille (Naples): **La stomatiti ulcero-membranose di origene dentaria. La stomatite ulcéro-membraneuse d'origine dentaire,** in: La Stomatologia, xxvi (2): 158-77. Feb., 1928. Abs. Revue de stomat., xxx (9): 630. 1928.

From his studies of patients at the dermo-syphilopathic clinic of Florence and at the Hôpital Lariboisiére, where Dr. Ramorino has examined the history, pathology, bacteriology, symptoms and treatment, he concludes that ulcero-membranous stomatitis should not be considered as a specific and epidemic disease. The fuso-spirillary bacilli are found in the forms of dental origin as well as in those of infectious origin. The treatment should be spiricidal.

—*Transl. abs. H. A. R.*

49—Stafne, Edward, C., D. D. S.: **Spirochaetaceae and fusiform dentium in the mouth,** in: D. Cosmos, lxx: 493-496. May, 1928.

The author in his conclusions has conveyed the main ideas expressed in the article. "Spirochaetaceae were present in 100% of the patients examined. The larger forms predominate in unclean mouths in which there are lesions. Spirochaetaceae and fusiformis dentium are both present in about 57% of adult mouths when there are no objective or subjective symptoms of ulcero-membranous gingivitis. The incidence is greater if uncleanliness and pathologic changes are present. The smear as an aid in the diagnosis of ulcero-membranous gingivitis and stomatitis is valuable only so far as correct interpretations are made. Factors other than the mere presence of the organisms must be considered to warrant a positive diagnosis."

—S. S.

50—Tavlin, H. F.: **Vincent's Angina,** in: D. Items of Int. Rev. Brit. D. J., xlix: 427. Apr., 1928.

In the treatment of 1500 cases Dr. Tavlin has become convinced that Vincent's infection and syphilis form one syndrome. He does not think it so contagious or infectious as is claimed. The chronic form has not been sufficiently studied, and Dr. Tavlin believes that this is the most dangerous type. Age is no factor, nor sex. Treatment varies, sodium perborate gave best results in patients seen in this hospital.

51—U. S. Public Health Service: **Vincent's infection,** in: J. Am. Dent. A., xv: 2194-2195. Nov., 1928.

True diagnosis can only be made with the use of a microscope. Person with persistent sore mouth should immediately consult his dentist or physician as Vincent's infection cannot be treated with household remedies. Micro-organisms causing this disease cannot multiply in the presence of oxygen. Hydrogen peroxide, potassium permanganate and sodium perborate liberate oxygen and are efficient mouth washes for this disease. Toothbrush should not be used during the acute stage. Neglect in treatment may result seri-

ously and organisms from the disease have been isolated in meningitis, peritonitis and diabetes. The disease can be cured with proper treatment.

—M. M. B.

1929

52—Albray, Raymonde A.: **The diagnosis and treatment of Vincent's disease,** in: D. I. of Int., li (4): 275-289. Apr., 1929.

This is a very good article on the clinical phases of Vincent's disease in the mouth. Seven illustrations of smears are given. It covers much the same material as earlier articles (See Laryngoscope, pp. 250-263, Apr. 1928) except that a more detailed discussion of treatments is given. It recommends in acute cases, washing the membrane or slough from the lesions with a spray of tincture of green soap, (1 drachm to four oz. of warm water), or equal parts of hyrogen peroxide and water; after rinsing the mouth, salvarsan powder is applied directly to the lesions, working it well under the free gingiva of all the teeth. Intra-venous injections of salvarsan or intra-muscular injection of sulpharsphenamin is advocated, to be administered by the physician. The patient is given a 2% copper sulphate solution to be applied to all parts of the mouth every hour. The mouth is thoroughly washed with a spray and salvarsan is applied at 24-hour intervals for several days. As soon as the condition warrants such treatment all points of irritation are removed such as calculus and rough filling margins. Then frequent brushing of the teeth with a few drops of tincture of green soap on the toothbrush is ordered. The discontinuance of smoking, especially of cigarettes, is advised during the treatment.

The chronic cases are treated in much the same way except that diseased soft tissues may be removed with the electric cautery. No case is considered cured until smears taken from all parts of the mouth are negative for the organism and remain so for at least two months.

Other therapeutic agents which have been widely heralded are discussed, such as aniline dyes, chromic and trichloracetic acids, tincture of iodine, silver nitrate, mercurochrome, sodium perborate, potassium permanganate and ultra-violet light; the disadvantages of each are stated.

The author notes a difference in the staining qualities of the fusiform bacilli under different conditions, the organisms in the acute lesions being slender and solid in their staining, while in chronic lesions they are very much larger and take the stain less densely and in granular form.

—H. J. L.

53—Appleton, J. L. T., Jr.: **Microscopic examination in Vincent's stomatitis,** in: D. Cosmos, lxxi: 576-579. June, 1929.

Microscopic examination may serve a threefold purpose. Such smears may be used in diagnosis, in controlling or checking up on treatment and in determining when to discharge the patient. Dark field illumination is less desirable than the direct microscopic examination of stained films, for the following reasons: the apparatus for dark field is an additional item of expense, it is more difficult to learn the technique of its operation, it takes at least as long to examine a stained smear and findings are no more reliable or easy to interpret. The staining method described by Bass and Johns (Journal A. M. A. 1915, 64:553) in their study of Endamœba Gingivalis is described. Methylene blue stain is used.

The writer regards the presence of the organisms in the mouth regardless of clinical findings as an indication of something pathological. Departure from normal might be slight and trifling; e. g. subgingival calculus, occlusal trauma, abutments or attachments of bridges or artificial dentures, etc. The mere presence of spirochetes and fusiform bacilli certainly does not mean the presence of Vincent's infection. It would be wise, however, wherever these organisms are found to take steps to eliminate them. The individual might be a carrier. Success of the treatment is evidenced by the return of the mucosa to normal and by the disappearance of the Vincent's organisms. If the organisms still persist the treatment should be changed. The patient should not be dismissed until the Vincent's organisms can no longer be found in the stained smears from the oral mucosa, particularly from those sites where they are specially prone to persist. The patient should return in a few months for re-examination.

—S. S.

54—Bryant, Carrie Kirk, B. S.: **Blood counts in 22 cases of Vincent's stomatitis,** in: Proc. Int'l Assn. f. Dent. Res. Mar., 1929. Abs. J. D. Res., ix: 284-285. June, 1929.

Cases varied in age from 17 to 33 years. 11 were college students; 16 male and 6 were female. 36% showed slight decrease in hemoglobin. 36% showed decrease in the no. of red blood cells. Only one case, or 4.5% showed a slight leucocytosis. 36% showed decrease in the polynuclears which were below 47% in 13% of the cases. The lymphocytic % was increased in 50% of the cases.

In 4 cases a second count was made of clinical improvement which had been brought about by the treatment; in 2 of these cases the first count showed a marked increase in the lymphocytic % with a decrease in the percentage of polymorphonuclears. The second count showed a tendency to return to normal as is shown in the summary:

	Polys.	Lymphocytes
Case 4 before treatment	42.0	53.0
after treatment	68.0	20.0
Case 5 before treatment	37.5	51.0
after treatment	65.5	26.0

55—Delguel and Magimel: **Stomatite de Vincent chez un syphilitique primaire en traitement par arsénobenzol,** in: Jour. de méd. de Bordeaux, lix (106): 639. Aug., 1929. Rev. de stomat., xxxi (11): 841-845. Nov., 1929.

This disease is generally believed to occur in ill-kept mouths. This interpretation seems to the authors too simple. The comparative rarity of this affection would seem to be opposed to the great frequency of ill-kept mouths. Delguel describes the well-known symptom-complex of Vincent's and reviews the literature. He asserts that pyorrhea is not a morbid entity but a single symptom common to diseases differing in etiology, progress and outcome. He deplores the tendency to make the arseno-benzols a classic, because of their use in syphilis;—but what do we know of the identity or even of the biologic relationship between the different buccal spirochetes and the specific one of syphilis? They quote Gaillard and Nogüe who wrote in 1924: "If, theoretically, arsenic constitutes a specific medication, it has not given the definite and practical results to be expected."

The authors then describe the case of a medical student of 23 years with an indurated chancre, balanitis and acute blennorrhagia; a heavy smoker, with a chronic gingivitis and teeth in bad condition. After four (4) injections of novarseno—benzol, he began to suffer from the eruption of the right lower wisdom tooth, which caused gangrene of the gum and continued pain. The pain soon became intolerable until a bacteriologic examination confirmed the diagonsis of Vincent's.

Conclusion

Theoretical views in the realm of treatment, however likely and reasonable they may appear, should be rigorously controlled by clinical results, before any publication.

—*H. A. R.*

56—de Mello and Fialho: **The commensal spirochetes of the dental arches and of the intestines of man and some of the domestic animals,** in: Bul. de l'Inst. Pasteur, xxvii: 121. Feb., 1929. Abs. Cosmos, lxxi: 435. Apr., 1929.

The dental arches of many mammals—horse, cow, pig, dog—harbor a spirochetal fauna similar to that of the human dental arches. Spir. buccalis, dentium, intermedium, and a delicate species with large spirals related to S. Buccalis are found. Rats, mice, goats and sheep do not present these spirochetes.

The authors infer that these spirochetes are simple commensals at least essentially devoid of pathogenicity.

Arq. da Escola med. Cirurg. Nova Goa, 1928.

—*Copy.*

57—Editorial: **Increase in Vincent's disease,** in: Pacific Dent. Gazette, xxxvii: 627. Oct., 1929. Abs. Int. Jnl. Orthod., p. 93. 1930.

According to Endelman, there has been for some time an alarming increase of an insidious character of this stomatologic affection. This is noted especially as a complication of other infections of the gums. While acute Vincent's gingivitis is readily recognized the reverse is the case with the chronic form. Nearly every case of pyorrhea which begins as gingivitis is complicated by a Vincent infection as shown by the presence of the two causal organisms, and in one recent bacteriologic survey the complication was present in 90 per cent of all cases of pyorrhea examined. This super-infection is also liable to develop in untreated mouths and is much more

rare in patients with all the benefits of prophylactic and restorative dentistry—crown and bridge work. Conversely the early loss of teeth in relatively young persons must often be set down to Vincent's infection supervening in neglected mouths. Some stomatologists do not hesitate to style this form of infection as a pure filth disease, although it may supervene in its acute form in the eruption of third molars and other teeth. In the management of the acute form bactericides should suffice, but in the chronic forms the entire mouth must be put in order.

It is only fair to state that in the practice of some dentists the disease occurs in mouths which are clean. Office practice does not agree in this respect with the findings in free dispensaries. In the experience of certain dentists mouth hygiene cuts no figure at all as a factor. But if the infection can develop in clean mouths it stands to reason that it should be much more common and severe among the proletariat than in those who use the toothbrush.

—*Copy.*

58—Fortner, J.: **Die reinzüchtung der fusiformen Bazillen aus dem zahnbelag.** Pure cultures of fusiform bacilli from tartar, in: Centralblatt f. Bakteriol. (abt. 1), cxii: 388-393. June, 1929.

The pure surface culture of the fusiform bacilli from human calculus is successful in a simple method of the anaerobic *prodigiosus* plating method.

The group of fusiform bacilli embraces bacilli strongly and feebly anaerobic, forms which differ morphologically and culturally among themselves.

—*Transl. of author's abs.*

59—Ginestet, Félix and Gustave: **Traitement de la stomatite ulcéro-membraneuse par le cyanure de mercure en injections intraveineuses (1 cg.),** in: Rev. de Stomat., xxxi (6): 337-339. June, 1929.

Following the lead of Marcou-Mützner, the author used cyanide of mercury successfully in a patient where intra-muscular injection of salts of arsenic had failed. The rapid action of the medicament was truly surprising.

He describes the case and adds that the good effects of this treatment seem incontestable; the symptoms improve from the first injection. The elimination by the buccal mucosa is almost instantaneous; for, in a few seconds after injection the patient complains of a tingling sensation at the level of the buccal ulcerations.

The minimum dose of mercury used is enough to kill the pathogenic agents without wounding the tissues, as occurs with the strong doses used in syphilis. In this latter case we get a contrary effect, a mercurial stomatitis.

60—Greenberg, Samuel and Philip: **The incidence of spirochete and fusiform bacillus,** in: D. Cosmos. April, 1929. Abs. Dent. Digest, xxxv: 403. June, 1929.

The authors state that since the spirochete is found in most inflammations in the mouth it is only natural that it is found in Vincent's infection. Also the fusiform bacillus is microscopically indistinguishable in many of its forms, and consequently the smear method is unreliable as a diagnostic method.

Furthermore, they state that in the majority of cases of primary lesions of Vincent's infection, the above-mentioned organisms are entirely absent. Consequently their etiological significance is open to doubt, and other causes of the disease should be sought. The various organisms associated with the lesions should be carefully studied.

61—Hirschfeld, Isador, D. D. S.: **Vincent's infection: its cause and treatment,** in: J. Am. Dent. A., xvi: 623-629. April, 1929.

In a brief and handsomely illustrated treatise, promiscuous kissing and the ever increasing cigaret habit share doubtful honors of a supposed increase in Vincent's infection. A short resumé of its etiology is given.

Outlining restricting systemic factors, the underlying principles upon which proper treatment is based, are:

1. The elimination of the bacterial element.
2. The raising of the general resistance.
3. The removal of traumatizing agencies which tend to lower the local resistance.
4. The promotion of local immunization, to ward off reinfection.

—*C. M. G.*

62—Husband, F. C.: **Discussion of paper by Isadore Pilot on fuso-spirochetal infection,** in: Pacif. Dent. Gaz., xxxvii: 659. Oct., 1929.

"Following the return of the men from overseas, I undertook to question many of them, laymen, as to their observation of their fellows who fell victims to the disease; and the one unaltering reply was this, that when the men came out of the trenches exhausted, many of them fell to gorging themselves with food; and it was these men who developed the disease. It would seem that the excessive indulgence in food excited by their exhaustion and long privations, together with the digestive organs greatly lowered in vitality induced a serious condition of auto-intoxication and prepared the host for these manifestations."

—Copy of excerpt.

63—Lufkin, A. W., D. D. S. and T. Disraeli, D. D. S.: Vincent's infection (Trench Mouth), in: Pac. D. Gazette, xxxvii: 611-620. Oct., 1929.

The prevalence of Vincent's disease is increasing. Smears made from a mouth with clinical symptoms of Vincent's showed the organisms present in 98 per cent and from mouths showing no symptoms 48 per cent positive results were obtained. Vincent's disease divided into (1) Vincent's Angina (confined to tonsils, soft palate uvula and pharynx) and (2) Vincent's infection (located on gums, cheek, lip and tongue). Vincent's infection is contagious and infectious with the fusiform bacillus and Vincent's spirillium predominating. The infection may occur at all ages but is more frequent in young adults. Both organisms being anaerobic grow best in the absence of oxygen, and are found in deep pockets, beneath third molar flaps, bridges and crowns. Transmission of the disease is by means of salivary contact with the infected person. Symptoms of the acute form are:—a grayish slough which can be easily wiped off and the exposed tissue then bleeds readily; a characteristic odor; the adjoining membrane is intensely red; no macroscopic pus is present; general malaise, loss of appetite and fever. Treatment consists of introducing oxygen which destroys the power of the organisms to reproduce. First remove the slough, large deposits of tartar and food debris, and have patient churn vigorously through the interproximal spaces, warm water to which has been added green soap. Then follow in the same way with a solution of one half hydrogen peroxide and one half water. Wash out with warm water and use chromium trioxide followed by hydrogen peroxide. Dry the mouth and apply to the inter-proximal spaces a solution of neo-arsphenamin in a 2 per cent aqueous solution of mercurochrome. After treatment for about a week, thorough prophylaxis and the elimination of all irritants should be undertaken. Sodium perborate may be used at home every two or three hours. Smoking should be discontinued and spicy and irritating foods withdrawn from the diet; alcoholic drinks should not be taken. Free elimination must be made certain. Gratifying results are obtained by the use of the water-cooled mercury vapor quartz lamp.

—M. M. B.

64—Marcou-Mützner (Ajaccio, Italy): Un traitement paradoxal de la stomatite ulcéro-membraneuse. A parodoxical treatment of ulcéro-membranous stomatitis, in: Monde médicale. Jan., 1929.

The use of cyanide of mercury is suggested in intravenous injections. The author obtained a definite cure in a very short time, in the cases of nine patients, all of whom showed the fuso-spirillary symbiosis.

—H. A. R.

65—Moriarty, L. J.: Vincent's infections, in: Clin. Med. & Surgery, xxxvi (2): 108-109. Feb., 1929.

In 1896 Vincent discovered the B. fusif. in the tonsils; the disease was rare in Europe and extremely rare in America up to 1914 increasing up to the present. Osler's definition is cited: "acute, febrile, pseudo-membranous disease with soft, yellowish-green exudate, which leaves bleeding upon removal. General symptoms may be severe and there may be swelling of the glands of the neck. There have been cases in which ulceration has even proceeded to destruction of the uvula."

This author has observed sixty cases and presents his findings hoping to learn whether the same observations have been made by others.

1. Most of his cases were run-down in health, indicating lowered resistance; also general effect of this infection is marked.

2. Not one tobacco-chewer out of the sixty cases.

3. No case free from traumatic occlusion. In nearly all cases, point where disease began was point of poorest occlusion.

4. In most cases no sign of use of brush or oral hygiene in general. Cases chiefly in males.

5. No case above 40 years of age.

The author describes his own treatment which is the familiar one, of Fowler's solution, with wine of ipecac and hydrogen peroxide, applied with the pressure spray. He differs from others in doing what cleaning he can at each daily sitting, getting much quicker results. On the buccal tissues away from the teeth, he uses resorcin. He stresses the usual points that reparative work must be thoroughly done, and the special treatment used for at least two weeks after the apparent cure.

66—Musser, J. H.: **Vincent's Angina,** in: California & Western Med. Sept., 1929. Abs. J. A. M. A., xciii (25): 1941. Dec., 1929.

This mouth disorder often is an extremely severe one, so severe that it may result in the death of the patient. Whether the Vincent's organisms and the associated spirilla are responsible for the systemic infection is an open question. It may be that the secondary infection that occurs is responsible for the occasional severe toxemia and death in some of the severely poisoned individuals. I have seen patients come to autopsy in whom mouth lesions, however, were the only definite findings to which the death of the patient could be attributed. In the angina of Vincent we have noted some rather remarkable blood findings which would tend to confirm the supposition that a severe toxin reaction is not necessarily due to septic organisms. We have now quite a series of cases in which a leukopenia was present with and absolute decreased polymorphonuclears and with a relative and sometimes absolute increase in small mononuclears.

The treatment of Vincent's angina seems to be more or less standarized. However, with our patients we have found the hydrogen peroxide as a mouthwash followed by hourly irrigations of 1 to 500 potassium permanganate, seems to work more satisfactorily than any other treatment, including arsphenamin intra-venously.

—*Copy.*

67—Rosenthal, S. Leonard, D. D. S.: **An outline and a classification of Vincent's infection,** in: D. Cosmos. Sept., 1929.

Avitaminosis, the apparent predisposing cause. The mere presence of a number of Vincent organisms in a field is not sufficient to call the smear positive for Vincent's infection. Vincent's infection may apparently affect any part of the body where the resistance is low. Cases reported of attacks on the nose, eyes, external auditory meatus, hands, lungs and penis. Diagnosis is made from the appearance of the tissues, subjective symptoms and microscopic examination, and no positive diagnosis can be made in the absence of the last two.

Vincent's infection is an acute disease; chronic Vincent's infection does not exist. It must be recalled that the etiologic microorganisms are natural inhabitants of the mouth and will find their way into the areas most favorable to their growth. Pyorrhea pockets are especially favorable habitats as a result of diminished oxygen supply and the accumulated accretions at the bottom. Here and beneath inflamed, hypertrophic gingivae, numbers of these organisms are found together with many other parasites. They cause no symptoms and disappear with the persistent use of ordinary hygienic measures or routine treatment.

Three classes

Class 1 or primary

Gnawing pains, increased salivation, fetor, and lesions of gray patches surrounded by hyperemic tissues accompanied by increase in pulse, respiration and temperature and feeling of lassitude and depression.

Treatment.

Dry the mouth with cotton rolls and saliva ejector and apply thick paste of sodium perborate to remain until chemical action ceases when the mouth is rinsed and application repeated for at least twenty minutes.

Class II or secondary

Differs only in severity. Painful opening of the mouth, drooling, loosened teeth and large areas of stinking necrotic tissue. Both red and white cell counts drop.

Treatment.

Dry the mouth. With glass applicators, apply 10% solution of neo-salvarsan in glycerine. In advance cases or where it is impossible to obtain dryness, the mouth is treated by intra-venous injections of neo-salvarsan.

Class III, or tertiary.

The most common point of attack is the

lungs resulting in pulmonary gangrene, usually a fatal complication. Dr. Vincent himself has proved that the organisms have been inspired from the oral cavity. This serves as a warning against the use of a general anesthetic (irrespective of the part to be operated upon) in even mild cases of Vincent's infection, and it is hoped will give impetus to more thorough oral examinations in all offices and institutions employing general anesthesia.

Treatment.

Treatment is varied according to the site of the lesion. The basic principles are the same, however. Intra-venous injections of neo-salvarsan and, where possible, local applications of 10% neo-salvarsan in glycerin are usually employed.

—*H. H. C.*

68—Schroff and Bartels: **Vincent's disease: treatment,** in: D. Surg., xxvi: 702-3 (1309). Dec., 1929. (*in re* Painful Sockets.)

These authors regard painful sockets (after extraction) as due to infection by Vincent's organisms,—these organisms having been found by them in large numbers in every case of painful sockets which they examined bacteriologically. Acting upon the assumption that the condition was due to Vincent's organism,—since these micro-organisms are anaerobic, it was decided to try the effect of a powerful oxidizing agent. Sodium perborate was employed with marked success in a large number of cases, the application of a hot solution of this substance being followed by rapid relief of pain, and by diminution in numbers and the final disappearance of Vincent's organisms.

69—Thompson, L. E., M. D.: **A fatal case of brain abscess from Vincent's Angina,** in: J. A. M. A. Oct. 5, 1929. D. Digest, xxxv: 821-2. Dec., 1929.

On searching the literature it was discovered that V's organisms had been found in cases of acute leukemia, pemphigus, hospital gangrene, pelvic peritonitis, industrial wounds, gunshot wounds, tooth wounds, and two cases of brain abscesses. The etiologic importance in all these conditions is not clear. Though little is known in regard to the organisms it is certain that Vincent's angina is practically endemic in some localities and is increasing in frequency.

In the case under consideration the patient, a housewife, had a right maxillary second molar extracted on Mar. 25, 1929. Pain developed in the right ear and continued until April 2nd, when a physician was called. Examination showed an infection of the external canal and an inability to open the mouth. A smear showed a plus 4 Vincent's infection in the mouth.

On April 6th the patient was sent to a hospital with a temperature of 103 F. The breath was very foul. On April 15th a large incision was made inside the mouth into the spheno-palatine fossa and the maxillary sinus was opened through a tooth socket. An incision was also made through the skin along the lower border of the inferior maxilla to the under surface of the parotid. One ounce of pus was removed. On April 16th the patient died. At autopsy an abscess was found in the spheno-palatine fossa extending by way of the middle meningeal vein to the longitudinal sinus, both of which contained pus. There was an abscess of the right temporal lobe, moth-eaten in appearance, typical of Vincent's angina and presenting Vincent's organisms on smear. There were abscesses in both orbits, and there was thrombosis of the cavernous sinus with Vincent's organisms on smear from both.

70—Winter, Leo, D. D. S., and L. V. Hayes, D. D. S.: **Vincent's Disease,** in: D. Cosmos, lxxi (7): 669-679. July, 1929.

The present article shows accurate and detailed observation and investigation of this wide spread disease. It is defined as "an acute or chronic infectious ulceration, phagedenic in nature, of the mucous membrane of the mouth and throat, associated in all cases with a fuso-spirillary symbiosis." Its terminology, clinical varieties which fall quite naturally into groups are (1) general infection; (2) gingival infection; (3) tonsillar and palatal infection.

The predisposing causes are divided into two groups: Local, summed up under oral sepsis, including (1) Irritation from faulty restorations, etc.; (2) from tobacco; (3) from tartar or food débris; (4) traumatic occlusion; (5) compression of gum flaps over erupting third molars. Constitutional factors may be: (1) general conditions as

faulty diet, malnutrition, alcoholism or fatigue; (2) cachexia due to syphilis, cancer, diabetes, etc.; (3) unhygienic environment; (4) contaminated water supply; (5) metallic poisoning.

The author notes that the action of all these causes is to reduce the resistance of the oral tissues.

Besides the fuso-spirillary symbiosis which is invariably present there may be observed Strep. pyog., Staph. alb. and aur., pneumococci and other organisms. When the B. diphtheriae is present a differential diagnosis must be made. The salient clinical observation is the surprising insignificance in the average case of the constitutional symptoms. Among the objective signs the authors note (1) the lesion proper; (2) fever, usually mild; (3) fetor of breath; (4) cervical and submaxillary adenopathy; (5) pallor of the skin, especially at night; (6) viscidity of the saliva; (7) Coating of the tongue; (8) acceleration of pulse rate. Subjectively are found pain, dysphagia, mobility of teeth, malaise and lassitude, metallic taste and anorexia.

An exhaustive discussion of the therapy of Vincent's disease is given with little that is new. The authors warn against the undertaking of any surgical or prophylactic work not only because of pain, but because of danger of forcing the infection deeper into the tissues; and recommend in all cases of Vincent's that some method of purging the system of the products of necrosis and bacterial activity be instituted.

—*H. A. R.*

71—Wintrup, J. Paul, B. S., D. D. S.: **An important predisposing cause of pyorrhea,** in: D. Digest. June, 1929.

Vincent's infection is considered to be a forerunner of suppurative periodontoclasia. Early symptoms are generally disregarded, but must be recognized.

Many chronic cases of Vincent have been diagnosed as periodontoclasia. Vincent's is not pyorrhea, pyorrhea not Vincent's; but, "let Vincent's infection alone, and pyorrhea is the result."

Microscopical picture of exudate: streptococci, staphylococci, endamebae; red and white cells, and fusiform bacilli and spirochetes.

Summary:

Vincent's organisms were found in smears of 138 out of 150 mouths in which pyorrhea lesions were found.

2. Ulceration of marginal gingiva and interdental papillae predispose to pocket formation.

3. Treatment for Vincent's in every case of pyorrhea before scaling.

4. Use of sodium bicarbonate urged in after treatment of Vincent's and pyorrhea.

—*Abs. H. A. R.*

72—Review: **Vincent's Disease,** from J. A. M. A. Pac. D. Gazette, xxxvii: 66-68. Jan., 1929.

The disease spreads very rapidly by contact as occurred during the world war amongst the soldiers who were closely confined in the trenches. Since then the disease has become very prevalent. Many systemic disturbances such as anaemia, digestive disturbances, noma, gangrenous stomatitis and so called hospital gangrene have been attributed to this infection. Neglected trench mouth may cause fatal streptococcic infection. Bloodgood states that he has never seen the disease in a mouth in which all the teeth have been extracted and concludes that the germ grows in the crevices between the teeth. There are many innocent carriers of the disease as it may be not only subacute but chronic. In the acute type there may be fever and the submaxillary glands or other neck glands may become swollen. The breath is always fetid, the saliva is increased and a metallic taste is often noticed. Predisposing conditions are neglected mouths, carious teeth, inflamed gums, syphilis and cigarette smoking. The patient should be told that the same care against infecting others must be taken as with any other contagious disease. Treatment most effective is a 2 per cent solution of sodium perborate as a mouth wash. Bloodgood finds that a rapid cure in 95 per cent of the cases is obtained by placing a thick paste of sodium perborate in the mouth and retaining it there for four or five minutes. He advises that it be given after finishing any kind of dental work. One injection of arsphenamin or neo-arsphenamin is generally sufficient and in a smaller dose than that given for syphilis. Barker finds that swabbing, at first twice daily and then daily with a 5 per cent solution of arsphenamin in glycerin is curative. This germ is frequently the cause of tonsil and mouth affections.

(i)—Miscellaneous

1927-'28-'29

1—Anthony, L. Pierce, D. D. S.: **A consideration of so-called periodontal nomenclature,** in: J. Am. Dent. A., xiv: 2082-2085. Nov., 1927.

Dr. Anthony suggests that "periodontia" and its associated forms were wrong terms in the beginning; and the error having been magnified by use is more apparent now and it is more necessary that it be corrected as soon as possible.

He also advocates the use of "occlusal trauma" as a substitute for "traumatic occlusion."

2—Brooks, H. L., M. D.: **An interesting case of salivary calculus,** in: J. Am. Med. A., p. 293. Jan., 1928.

Brooks reports case of calculi in sub-lingual gland of woman of 34 accompanied by swelling beneath tongue and tenderness underjaw and pain radiating to ear. Incision was made over sub-lingual gland beginning at orifice of duct and stones located by X-ray were removed with good recovery. Patient gave history of similar attacks, from time she was child in school and expectorated small seed-like substances which seemed to exude from under side of tongue. Other attacks followed by expulsion of calculi had occurred two and seven years previous to last one.

—*C. R.*

3—Bryan, A. W., D. D. S.: **The relation of the general practitioner to periodontia,** in: J. Am. Dent. A., xvi (4): 618-621. April, 1929.

The health of the oral tissues rests to a great extent upon the general practitioner for it is he who sees the patient at regular intervals and by early recognition of periodontal disease can prevent serious involvements of the oral tissues. Few patients possess healthy oral tissue, and most dentists are so concerned with filling teeth that the pathologic condition of the soft tissue goes unnoticed. The general practitioner has a definite responsibility in preventing oral lesions by careful operative work such as proper contact, and good contour of fillings, and correctly fitted appliances. He must recognize and treat the early symptoms of the disease, or refer the cases to a specialist. Many patients do not wish to leave their general practitioner, therefore it is for him to recognize and assume this responsibility.

—*J. W.*

4—Bryan, A. W., D. D. S.: **Research problems in preventive dentistry and the relation of the dental schools to them,** in: J. Am. Dent. A., xvi: 2254-2257. Dec., 1929.

It is necessary first to determine the meaning of "preventive dentistry" which is defined as "referring to any procedure in dental practice which has to do with preventing or avoiding the occurrence of pathological conditions." But these pathologic conditions cannot be limited to oral tissues. Among the most important problems to be solved the author calls attention to "that of diseases of the soft tissues of the mouth, marginal and peridental infections, and their effects on systemic conditions."

Bryan believes that the dental schools are definitely responsible for carrying on the investigations of these and like problems. The attitude of men after entering practice toward these questions is influenced by the training received from their schools while students. Therefore the responsibilty of the schools lies both in actual research work done, and in the mental attitude transmitted to students.

5—Diamond, Morris, D. D. S.: **Preventive dentistry and preventive aspects of restorative dentistry,** in: D. Items of Int., li: 948. 1929.

Preventive dentistry at the present time cannot be practised to the exclusion of restorative dentistry; since both local and constitutional sources of disease must be carefully considered. In the latter aspect much research work has been done in the direction

of general hygiene and dietetics and the works of Howe and Mellanby are especially familiar to us. Unfortunately, dietetics is not the only solution of the problem, since Bright's disease, diabetes and other constitutional disturbances may be causative factors in caries and periodontal pathology. When the medical profession can cope with these and other diseases from a curative and preventive standpoint, then, the constitutional aspect of preventive dentistry may be eliminated and the task of the dental profession greatly simplified.

Since environment and heredity must also be considered, we cannot hope to have the healthy periodontium of primitive people even with this idea as the goal. Therefore, restorative dentistry is still an important factor in dental routine. From the local standpoint of preventive dentistry, mouth hygiene plays an important part. Still, it can only be said that only a small fraction of dental ills are prevented in a certain percentage of people. Another phase in local prevention is the early surgical treatment of pits and fissures which are the chief sources of tooth decay.

The importance of periodical clinical and radiographical examination cannot be too strongly stressed in the early detection of disease. In properly carrying out restorative dentistry, we are also practicing preventive dentistry, since replacements must be anatomically constructed from the defensive standpoint, in order to permit natural functioning of the teeth and underlying tissue. Lastly, perfect hygiene must be obtained and maintained in the field of prevention.

—*C. J. C.*

6—Editorial: **Caries and pyorrhea,** in: Dent. Surg. Oct., 1929. Abs. Int. J. Orthod., p. 93. Jan., 1930

Familiar teaching that these diseases seldom co-exist is no longer tenable. Dr. Tishler's experiments are cited: 200 cases of pyorrhea, unselected, total number of teeth in this series about 5000. Only 2 of the 200 pyorrheics were absolutely free from caries—1%. Total number of cavities found in the 5000 teeth, 2675. No parallelism between the two diseases. There is no doubt that the same conditions predispose to each—irregular and overcrowded teeth, accumulation of food débris and certain general conditions affecting the vitality of the individual.

7—Goldfinch, Dr. Harry A., D. D. S.: **Classification of periodontal lesions,** in: Australian J. D., xxxiii: 328-331. Oct., 1929.

According to this author, gingivitis may exist independently or with periodontitis. It takes the following forms:

Acute—ulcerative
Subacute—non-ulcerative
Chronic—hyperplastic

Rarefying pericementitis fibrosa.

Symptoms:

1. congestion of the marginal gingiva
2. gingival recession
3. no pocket formation
4. presence of occlusal trauma
5. clean oral conditions
6. radiological evidence
   (a) thickening of the pericementum
   (b) thinning of the lamina dura
   (c) rarefaction of the alveolar bone

Periodontitis—inflammation of all structures gingivae, pericementum, alveolar bone.

1. Acute
2. Chronic
   simplex
   complex

Simplex:

marginal gingiva conspicuous
unclean mouth—much calculus
mobility relatively late
pocket formation slow
pockets broad and shallow

Complex:

marginal gingivitis not conspicuous
mouth well cared for; calculus slight
immunity to caries
early mobility and migration
occlusal trauma always present
pocket formation rapid; pockets deep and narrow.

Simplex may pass into complex

Author thus describes pocket formation:

The epithelial lining may proliferate and extend along the root of the tooth, so stripping the connective tissue from the cementum; or, the pocket may occur as a result of ulceration taking place at the base of the gingival crevice. Pus is not always observable clinically. The pockets are serious foci of infection especially if deep. Reattachment of pericementum to denuded root surfaces is a biologic possibility.

8—Heermans, W. S., D. D. S.: **The relation of teeth to the cycle of life,** in: D. Digest, xxxv: 236. 1929.

An accompanying chart was conceived and designed to assist one to concentrate thought upon the relation of teeth to the cycle of life and thus acquire a suitable mental picture of the significance of teeth as related to their development and purpose and of the factors having a bearing upon their serviceability, preservation and eventual disintegration. Its value lies in the ability of the dentist, with its assistance, to convey to the laity a true understanding of the idea of service as provided by nature, of the logic of maintaining that service by feasible preventive measures, and of the eventual restoration of service by corrective means.

The circle is divided into ninety segments, each one representing one year, the total intended to encompass the entire span of a human life. Nature deems it necessary to utilize approximately twenty-one years to produce an efficient masticatory apparatus—a fact seldom, if ever, considered by the uninitiated.

The chart presents that time of life from the twenty-first to the thirty-first year as the peak of dental efficiency.

At about the 42nd or 43rd year on the chart there are but few of the natural teeth left.

Eventually, and in spite of the fact that all that is humanly possible has been resorted to in order to arrest the final elimination of all the natural dentition, the individual is confronted by the final and only expedient left—the full denture (about the 48th year of the chart). The chart can be an aid to the periodontist in connection with the emphasis to be made regarding preventive measures, to the orthodontist in connection with the education so necessary as to the increased serviceability of correctly aligned natural dentition, to the exodontist because of its portrayal of the processes of disintegration and the advisability of preventing further development of that process so far as possible, to the general practitioner in respect to his effort to educate his clientele to the full meaning of his services.

9—Kozlowsky, Anthony: **A comparative study of the action of sodium ricinoleate upon bacteria,** in: Jour. of Bact., xvi: 203-209. Sept., 1928. D. Cosmos, lxxi: 633. June, 1929. Abstr.

This paper is of interest because this chemical has been recommended by Hartzell in the treatment of periodontal infections.

Among the streptococci investigated those isolated from cases of erysipelas, measles and scarlet fever were the most susceptible to the bactericidal action of sodium ricinoleate; they were killed by this soap in a dilution of 1-5000 in about 7 hours, or sooner, at 35C; in a control culture without soap, they survived for more than one week; their growth was inhibited by this soap in a dilution of 1:20,000 or less; in their cellular susceptibility they approach that of pneumococci which were killed by the same soap under similar conditions in a dilution of 1:10,000.

Of the bacilli, B. diphtheriae was found to be quite susceptible to the inhibitory and much less to the bactericidal action of sodium ricinoleate; B. tuberculosis showed a slight susceptibility, as it was inhibited in its growth by this soap in a dilution of 1:2000; B. paratyphosus, B. dysenteriae, B. coli communis and S. fecalis are quite resistant to the inhibitory and bactericidal action of sodium ricinoleate. They are probably adapted to the action of soaps in their natural condition of growth.

An intermediate place between susceptible and non-susceptible bacteria is taken by some streptococci which are more or less saprophytic, i. e., S. lacticus, S. pyogenes, and S. viridans; they were inhibited in their growth by sodium ricinoleate in a dilution of 1:5000 or lower, but were not killed in a dilution of 1:1000.

—*Copy.*

10—O'Rourke, J. T., D. D. S.: **Materials for teaching preventive dentistry,** in: Proc. Am. Assoc. D. Schs., v: 217-220. 1928.

Teaching materials could be grouped under the following heads: stereopticon slides, radiographs, models, charts, anatomic specimens, microscopic sections, and toothbrushes.

The value of each group is emphasized and its place and scope of usefulness mentioned.

The stereopticon slides and radiographs

show the progress of disease and its result can be noted by a series of pictures, which should be indexed and filed for use and study.

Models are helpful in teaching occlusion, as well as tooth form and toothbrush instruction.

The microscopic sections are mentioned as a valuable aid in giving a correct understanding of pathological conditions as differentiated from the normal physiological condition.

The grosser anatomical structures are represented by jaws, skulls, and sectionings of each, to show osseous changes.

All these help the student to get a clear conception of what is aimed at in preventive dentistry.

The toothbrush, its good form and bad form is illustrated with samples of each form.

Since there is no standardization it seems each instructor must develop the best materials he can, and present the topic as vividly as possible in order that the student be convinced that prevention is the biggest thing in dentistry.

—*W. C. G.*

11—Östmann, Birger (Stockholm, Swe.): **Parodentit—Paradentos. Bidrag till fragen om de marginala paradental—sjukdomarnas nomenklatur.** Paradentitis—Paradentosis. Contribution to the study of the nomenclature of marginal paradental diseases, in: Svensk Tandläkare Tidskrift, xix (6): 424. 1926. Abs. Fortschr. der Zhkde, iv (2): 507. 1928.

A disease may take its name according to the standpoint from which it is considered. As regards especially the marginal paradentoses, Beyer, for instance from the viewpoint of bacteriology calls them "spirochetoses"; Gottlieb, from the pathologic anatomic viewpoint, talks of "paradental pyorrhea and alveolar atrophy"; from the symptomatology (Toirac, 1839) "alveolar pyorrhea," incorrectly; since this indicates only the exudative form.

"Östmann states three requirements for an ideal nomenclature of marginal affections.

(1) The name must embrace collectively all similar forms of the disease and their collective stages.

(2) It must serve for the pathological anatomy as well as for the clinical picture.

(3) The name must cover the changes in all the tissues of the marginal *paradentium.*

From this point of view Gottlieb's classification is not exhaustive; and Lang-Häupl's "paradentitis marginalis" in no way satisfies the above requirements.

—*Transl. from Abs.*

12—Schott, Carlos H., D. D. S.: **Better dentistry through the practice of periodontia by every dentist,** in: Pac. Dent. Gaz., xxxvi (2): 90-94. 1928.

Dentistry is considered in this article from the standpoint of health conservation. With the increasing number of periodontic cases seen, the importance of periodontia must be more widely recognized.

The most common cause of periodontal disintegration is a lack of use. In the writer's opinion, use of the tooth brush is of more importance than even careful instrumentation.

The author shows an unusually wide acquaintance with the literature of the subject as treated by specialists; but he believes that the great responsibility belongs to the general practitioner of saving the masses through preventive education and prophylaxis; and that the practice of periodontia is an absolute necessity for every dentist desiring to render valuable service to his patients.

—*H. A. R.*

13—Seccombe, Wallace, D. D. S.: **Preventive dentistry,** in: J. Am. Dent. A., xv: 115-118. Jan., 1928.

Dr. Seccombe's paper makes a strong plea for a greater extension of dental health education. He urges dental practitioners to fit themselves for teaching preventive measures to their patients. As a means for better fitting themselves for more useful service, he suggests that they make a closer contact with the universities and public health laboratories for the purpose of checking up on the soundness of the clinicians diagnosis, as revealed by the laboratory, as well as the clinical results of their treatment. He also stresses the importance of the profession at large coöperating with all agencies engaged in health education and health service, and especially with dentists employed in schools and industrial plants.

—*R. S. T.*

14—Stillman, Paul R., D. D. S.: **How to Control Dental and Periodontal Disease,** in: D. Cosmos, lxxi (4): 439. Apr., 1928.

The term "preventive dentistry" was introduced at a time when dental caries was regarded as the arch-enemy of the human dentition. In those years, so-called pyorrhea did not enter into the discussion of preventive dentistry, not for lack of recognition of its destructive influence, however, but because it was by common consent considered to be an incurable malady. Dentists dimly recognized that they could not prevent that which they could not cure. That which we now know as periodontal disease was a sort of specter, stalking in to work havoc here and there. As our knowledge of the nature of periodontal disease has increased, we have come to give more thought to the possibility of preventing the destructive effects of this grim malady. The profession of dentistry is confirmed in a habit of mind, based upon the traditions of dental practice as regards the significance of caries. It is fully awake to the importance and terrifying sequence of dental caries. Were dental caries the only expression of disease within the mouth all would be well for dentistry. All the rules of health which apply to the body as a whole should apply equally to the tooth. The tooth is subject to nutritional changes. Since the pulp received blood vessels from the portion of the periodontium which surrounds the apex, its nourishment will be affected by alterations in the health of the periodontium. We thus see the essential unity of the tooth and periodontium as regards the problem of health maintenance. Therefore, preventive dentistry should mean not only the prevention of caries but of every disease in the mouth.

—*J. C. S.*

15—Thornton, R. D., D. D. S.: **What subject matter should be covered in courses in oral hygiene and preventive dentistry, and how should it be organized?** in: Proc. Am. Assoc., D. Schs., v: 205-216. 1928.

In this paper the author gives a definition for Preventive dentistry as follows: "Preventive Dentistry covers the field of prevention of disease and maintenance and promotion of the health of the mouth."

Hygiene is defined as "The science of health." Other definitions confirm this one, and other explanatory definitions would make the definition for Oral hygiene read like this, viz:

"Oral hygiene is the branch of medical science that relates to the prevention and improvement of health by promoting normal conditions in the oral cavity."

The term "Preventive dentistry" is not necessary. Oral hygiene aims at preserving oral health, then prevention of disease is an essential factor. Preventive dentistry as a term may suggest certain considerations, but oral hygiene covers the entire field.

It is essential that dental pathology be known as a foundational factor in oral hygiene. Anatomy, histology and physiology are pre-requisites, while diagnosis and therapeutics demand an acquaintance with pharmacology, pathology, bacteriology and chemistry. Thus the practice of oral hygiene requires that the practitioner be alert that he may detect departure from normal. The undergraduate must be schooled along these lines if he is to follow such a line afterwards.

The course of oral hygiene should be started in the freshman year, and a course of lectures on general health should be given early. The student is in college to learn how to preserve health. Oral hygiene should be taught by all departments, since it is the ultimate end of dentistry to secure hygiene of the mouth.

In the "Course on Oral Hygiene" community hygiene should be taught, advice to patients about personal care of the mouth and other matters not covered by the departmental instruction alluded to.

—*W. C. G.*

16—Toverud, Guttorm: **Influence of pregnancy on the teeth,** in: Norsk Mag. f. Laegevidensk, lxxxviii: 169-185. Mar., 1927. Amer. Dis. of Chil. Nov., 1927. J. Am Dent. A., xv (1): 189. Jan., 1928.

By experiments on rats given a diet deficient in calcium and vitamins during pregnancy, the author has found a disturbance in the Ca, Mg and P ratio of the constantly growing teeth.

These experiments point to the fact that the diet during pregnancy is the controlling factor in the increased disposition to dental caries during this period of a woman's life. According to this author the most common

deficiency of the diet is lack of Ca and vitamin A.

—*Copy.*

17—Waugh, Leuman M., D. D. S.: **Nutrition and health of the Labrador Eskimo, with special reference to the mouth and teeth,** in: Jnl. Dent. Res., viii (8): 428-429. June, 1928. Prelim. Abs. No. 25.

It is generally believed that the primitive Eskimo has the best teeth of any known human race, either civilized or savage. Direct observations among the Labrador Eskimo at Hopedale and Makkovik, with the aid of missionaries and local officials, indicate that this belief is erroneous. In these settlements, where for two or three decades carbohydrate has constituted approximately 50 per cent of the diet, protein and fat having been correspondingly reduced to about 25 per cent each, the teeth were found to be in a deplorable condition; and they appear to be getting worse in each succeeding generation. Teeth in some of the Eskimo under twenty years of age were decayed to the gum line, and the roots further hollowed out by caries. Alveolar abscess with sinus was common. Some of the old natives had very good teeth.

In other groups of Eskimo, about Hebron, on a diet having much smaller proportions of carbohydrate and higher percentage of proteins and fat, the dental conditions were much better—in some nomadic groups farther north, in the Port Burwell region, the teeth were practically free from decay. But there was gingival disturbance in practically every individual of twelve years and over, owing to an abundance of flint-like deposits of calculus that encroached upon the supporting structures until in old age this was the greatest factor in the loss of teeth.

Lack of constancy in the form and presence of the third molar was notable. A number were rudimentary in size and in some mouths one or two were either congenitally absent or had never erupted.

The observations warrant these general conclusions:

a. The health of the Eskimo is rugged and his teeth, despite much inbreeding, are excellent while he lives the nomadic life of his ancestors.

b. He is best nourished by his native food consisting of fat and protein exclusively. This, frozen solid for about nine months of the year, is eaten almost entirely raw.

c. In the so-called "civilized" settlements where he adopts the white man's food, clothing, and mode of housing, and is exposed to the white man's diseases, there is a marked lowering of physical prowess in the younger generations.

d. He is susceptible to epidemics to an alarming degree.

e. Before the Eskimo can successfully associate and adopt the civilization of the white race, his resistance against our diseases will have to be increased.

f. The Eskimo jaws and teeth continue to be the largest, strongest and least carious of any known race, wherever he subsists strictly on native foods.

g. In localities where carbohydrate food is available, he eats it in great quantities, reducing the intake of protein and fat, and the teeth decay rapidly with consequent serious alveolar abscesses and grave systemic sequelae.

h. Heavy deposits of calculus are present in the mouths of practically every Eskimo after ten to twelve years of age, resulting in periodontal disease ranging from a mild chronic hyperemia to nearly total destruction of the supporting structures of the teeth. Almost no pus is observable in this condition.

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